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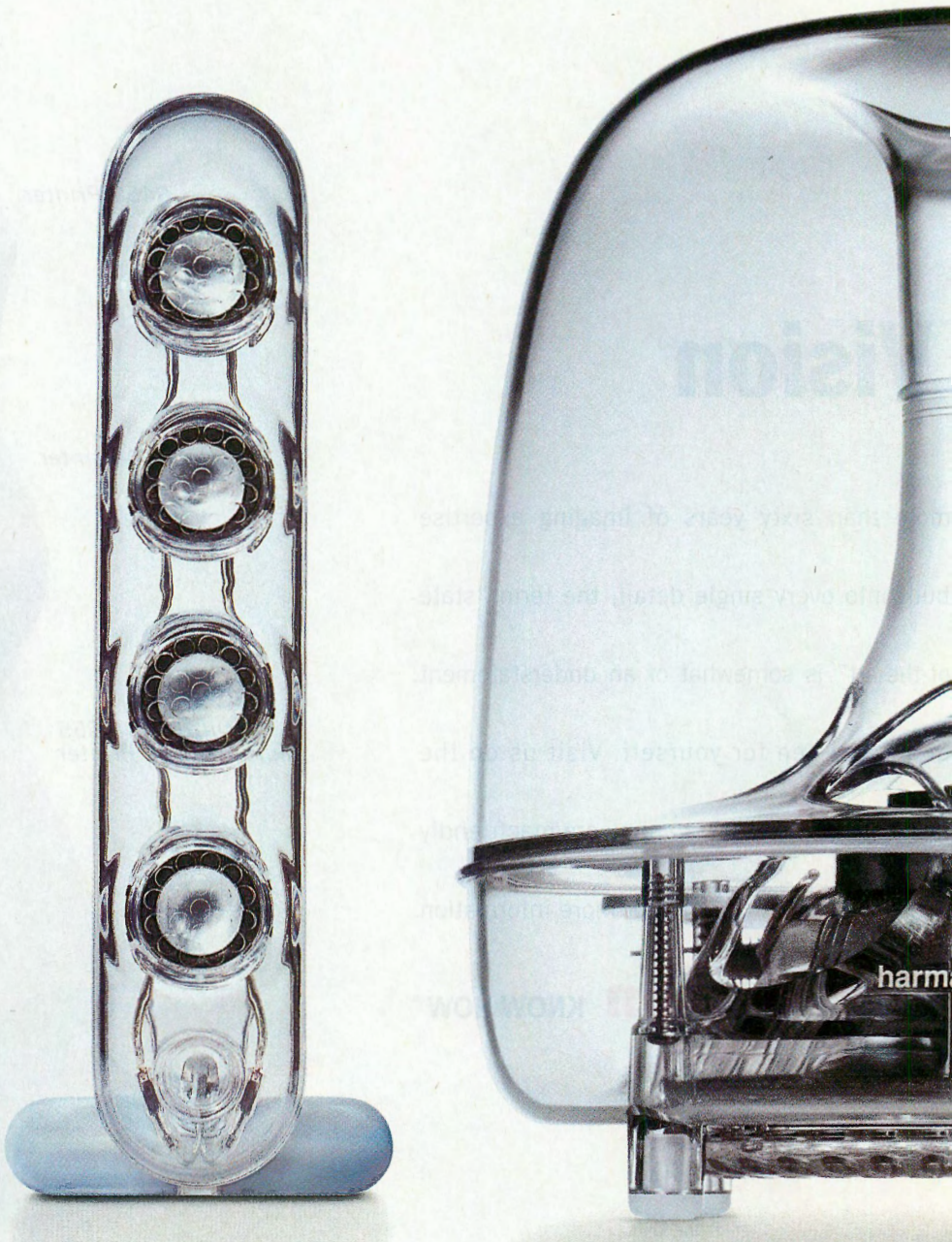

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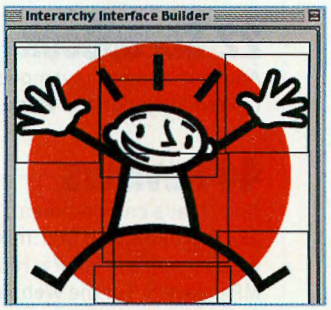
by David Reynolds



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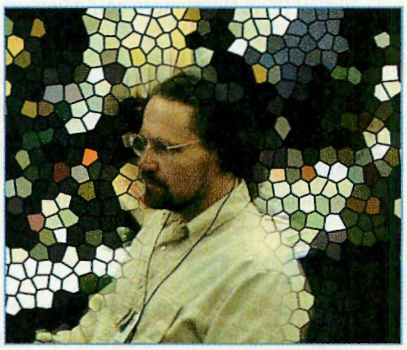
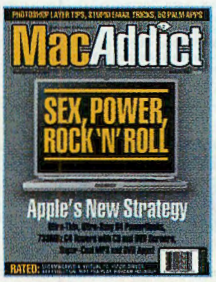


Dave fires up iTunes and reaches a new state of Nirvana.

For all our special fans: Pantone 877! Uh, that's the shiny stuff on the cover that appears gray here. You're welcome.



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MacAddict

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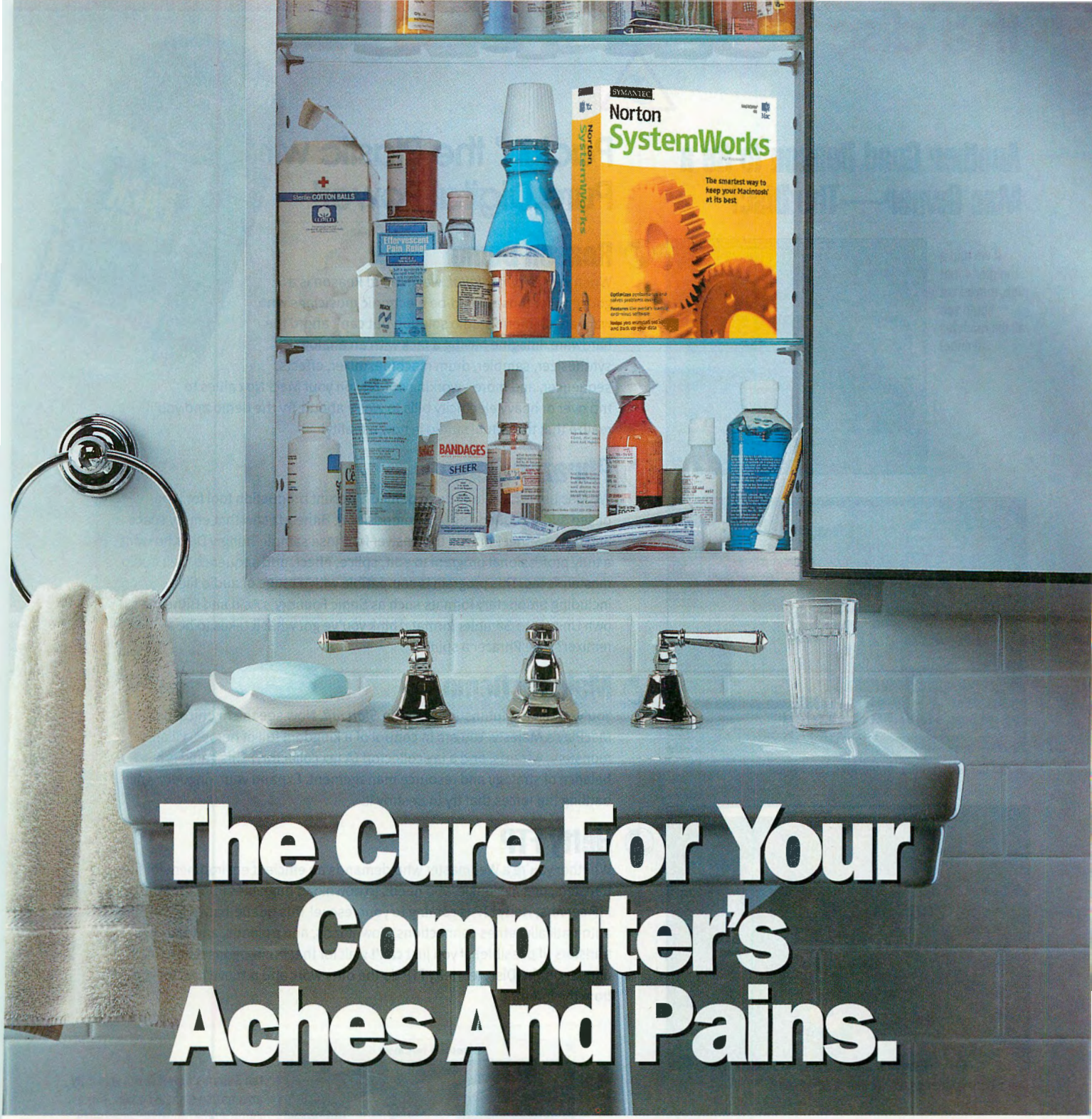

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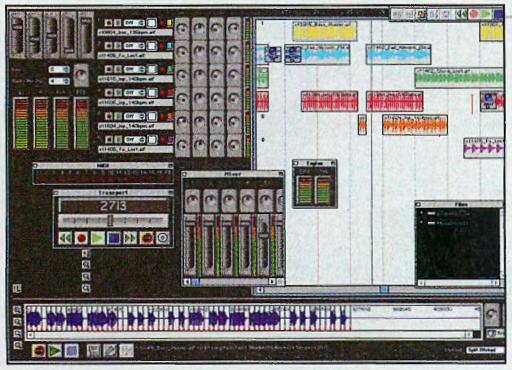
Another Good Reason to Be a Mac Owner—The Disc!

Packin' the Plastic with Pure Digital Power!

If we had a monitor 4 feet high, maybe we could see all the modules at once!

Reason Demo

When we say *pure digital,* we mean it! Reason is a godsend for those would-be electronic musicians who want an all-in-one studio solution but can't afford the hardware. Imagine having a rack with an analog synthesizer, sampler, drum machine, mixer, effects, sequencer, and more—working entirely on your Mac! No cables to trip over or heavy electricity bills to worry about! Try the demo and you'll realize that the virtual studio is now a reality!



Music is making it big on the Mac once again!

Phrazer Demo

We Mac users have long been denied a decent production tool for loop-based audio sequencing and composition. Bitheadz saw that empty space and put together Phrazer, the answer for those sample-hungry DJs who want a truly professional program to edit, splice, effect, and sequence their audio masterpieces. This program is compatible with a range of audio files, including proprietary formats such as Sonic Foundry's Acid and Bitheadz's own Unity DS-1 Sampler format. Think you've got what it takes to be a remixer? Give Phrazer a spin!

Can we make that castle fly like in *Starcraft*?

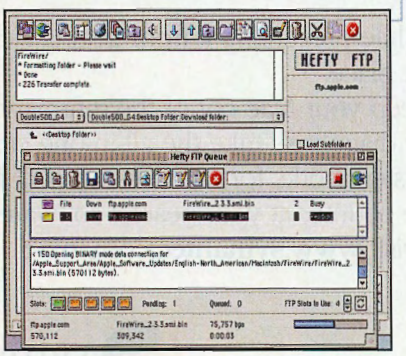
Majesty Demo

You've seen the futuristic fantasy in *Starcraft.* Now see the mythical past in MacPlay's Majesty. You are in control of a kingdom full of heroes, villains, monsters, wizards, and a tax collector! (A tax collector?) This game is a balance of strategy and resource management. Expand your kingdom while battling the forces that try to destroy it.

Hefty FTP

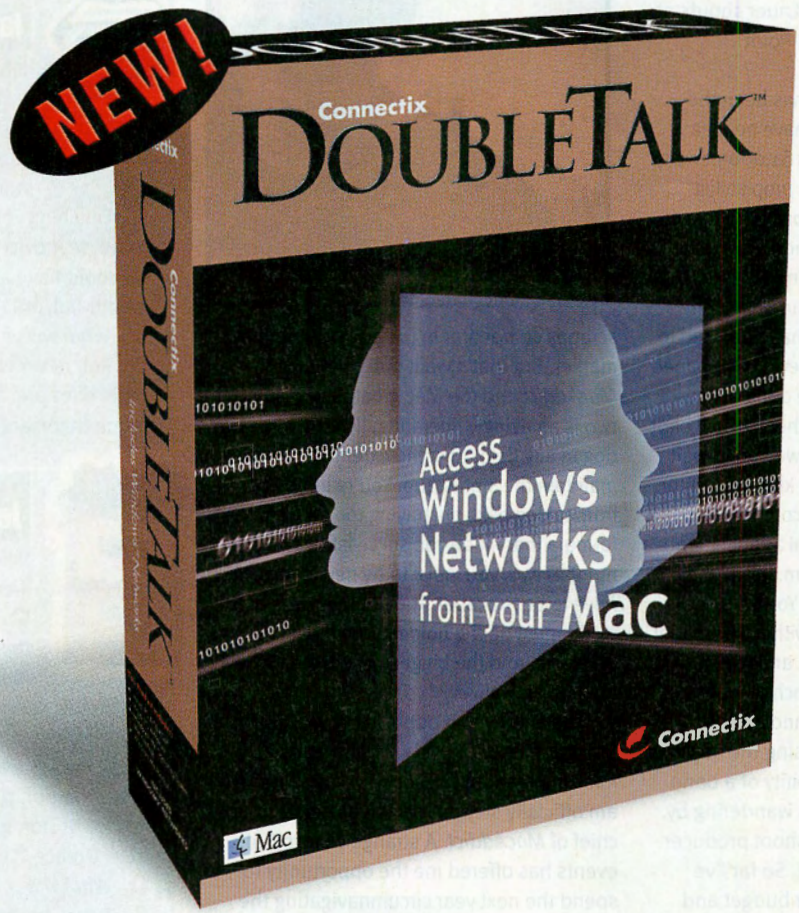
Whether you're a Webmaster who demands an efficient environment for file transfers, or a file junkie who needs to download huge files from the Web or FTP servers, Hefty FTP is coming to your rescue! This queue-based FTP client automatically retries connections, downloads, and uploads, and resumes transfers (if possible). If you just can't wait for that humongous demo to appear on The Disc, let Hefty FTP do the dirty work and retrieve files for you from the Internet.

Hefty, fetch me that elusive 150MB demo while I sleep, would ya?



Ian Sammis's workspace was truly an amazing sight to behold. There came a time, however, when even the foundation of load-bearing boxes couldn't support the weight of CDs, manuals, press releases, pennies, iBorg parts, paper clips, and miniature alcohol bottles from hotels. Rob Capps decided it was time to take matters into his own hands. This is a video collage of the momentous event. Enjoy.

The Simple Way to Access PC Networks



DoubleTalk from Connectix revolutionizes Mac-PC networking by enabling Power Mac users to connect to PC networks and printers from within the familiar Mac interface. DoubleTalk sets up quickly and easily in the Mac environment. It automatically configures its network settings, then lets you access network resources and services through the Chooser or Network Browser. DoubleTalk works automatically and transparently in the background, requiring little or no user intervention.

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Connectix

editor's note

Last call.

"It's better to be a pirate than join the Navy."
—Steve Jobs

"We're losing the sun, where the hell's Richie?" *MacAddict* photo contributor Aaron Lauer shouts at me above the noise of Oyster Point Boulevard. I have no answer.

It's late October 1999. As has been the case so many times before, I have no idea what I'm doing. I've dragged a $1,000-per-day photographer, his assistant, a prop stylist, and new *MacAddict* art director David Ross to an abandoned tractor at the side of a major thoroughfare in South San Francisco. We're all waiting for Richie Lesovoy, head of Imagine's production department, who has promised to show up and model Apple's new clam-shaped iBook for the magazine. As we don't own an industrial backhoe to use for this concept shot (*iBook Fashion*, Jan/00, p47), we had to wait until a local construction crew knocked off for the day, allowing us to, well...commandeer one. I had tried to make official arrangements, but those didn't work out. ("Um...excuse me, could we borrow your tractor? You see, Apple Computer has just come out with a laptop that some people think looks girly, and we thought it'd be funny to dress up a bunch of magazine staff as construction workers and...no? OK.")

Aaron's worried about losing the sun, I'm worried about the possibility of a band of surly construction workers wandering by. My foray into playing photo shoot producer is going questionably at best. So far I've managed to take us way over budget and I've completely run out of time—the magazine goes to press in just two days.

This isn't to say the situation's abnormal. Since I have been employed at *MacAddict*, I have found myself in the role of film director, on-air radio host, lecturer, technical consultant, stunt guy, model, programmer, and travel agent. I'm always trying things I have no training for, no experience in, and generally no business doing. That's the wonder of *MacAddict*. In the midst of this unsanctioned, oddly conceived, and most likely illegal photo session is everything I love about this magazine, our readers, and the Mac universe.

MacAddict, like its subject matter, is the underdog. It's not the biggest, broadest, best-funded, or longest-running magazine in its market. Apple is likewise the small,

So long, and thanks for all the G4s!

scrappy competitor in the larger computer market. But that's what makes both *MacAddict* and the Mac great. Being number two is amazingly liberating. If you are the top dog in any field, to some extent you have to maintain the status quo. You're inhibited from taking risks or straying too far from the formula that made you successful. If you're number two, you *have* to try new things. You *have* to be the rebel. The number twos of the world must be the boldest, the most inventive, and the biggest risk-takers if they hope to stay alive.

The energy and opportunity you get from being the underdog is what I'm going to miss most about this job. As of next issue I am officially stepping down as editor in chief of *MacAddict*. A strange collision of events has offered me the opportunity to spend the next year circumnavigating the globe, and it's not an opportunity one should pass up. *MacAddict* stalwart David Reynolds will be returning to the post starting with the April issue. Most of you probably know Dave—he has been with the magazine since it launched, and served a previous tenure as editor in chief. Needless to say, the magazine is in very good hands, and you can expect more thorough reviews, in-depth how-tos, and absolute lunacy under his command.

I'll always look back fondly on those adventures like the iBook photo shoot. Many times we as a staff have been stretched beyond our means, trying to pull off an idea no other Mac magazine in its right mind would attempt, and questioning our own sanity. More often than not we've pulled it off.

Staff Rants

Ian Sammis

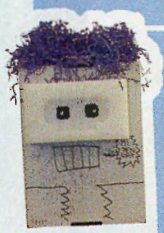
Not-Traveling-Around-the-World Senior Editor

Q. *What is the strangest thing you've had to do for* MacAddict?

A. Finishing *The MacAddictical Universe* movie in about three days so we could have a staff video for that month (Jul/00).

Q. *What will you miss least about Rob?*

A. Rob never let my stupidest ideas for cover lines and articles get very far. Damn that man!



Jenifer Morgan

Not-Traveling-Around-the-World Managing Editor

Q. *What is the strangest thing you've had to do for* MacAddict?

A. Acting out emotions for the interactive movie *The Four Faces of Jenmo* (Jun/00)...at least it solicited a letter of admiration from the mysterious and no doubt Don Juan–esque "Mario from Greece."

Q. *What will you miss least about Rob?*

A. Dance parties, air guitars, and kung fu practice in my cubicle.

Chris Imlay

Not-Traveling-Around-the-World Associate Art Director

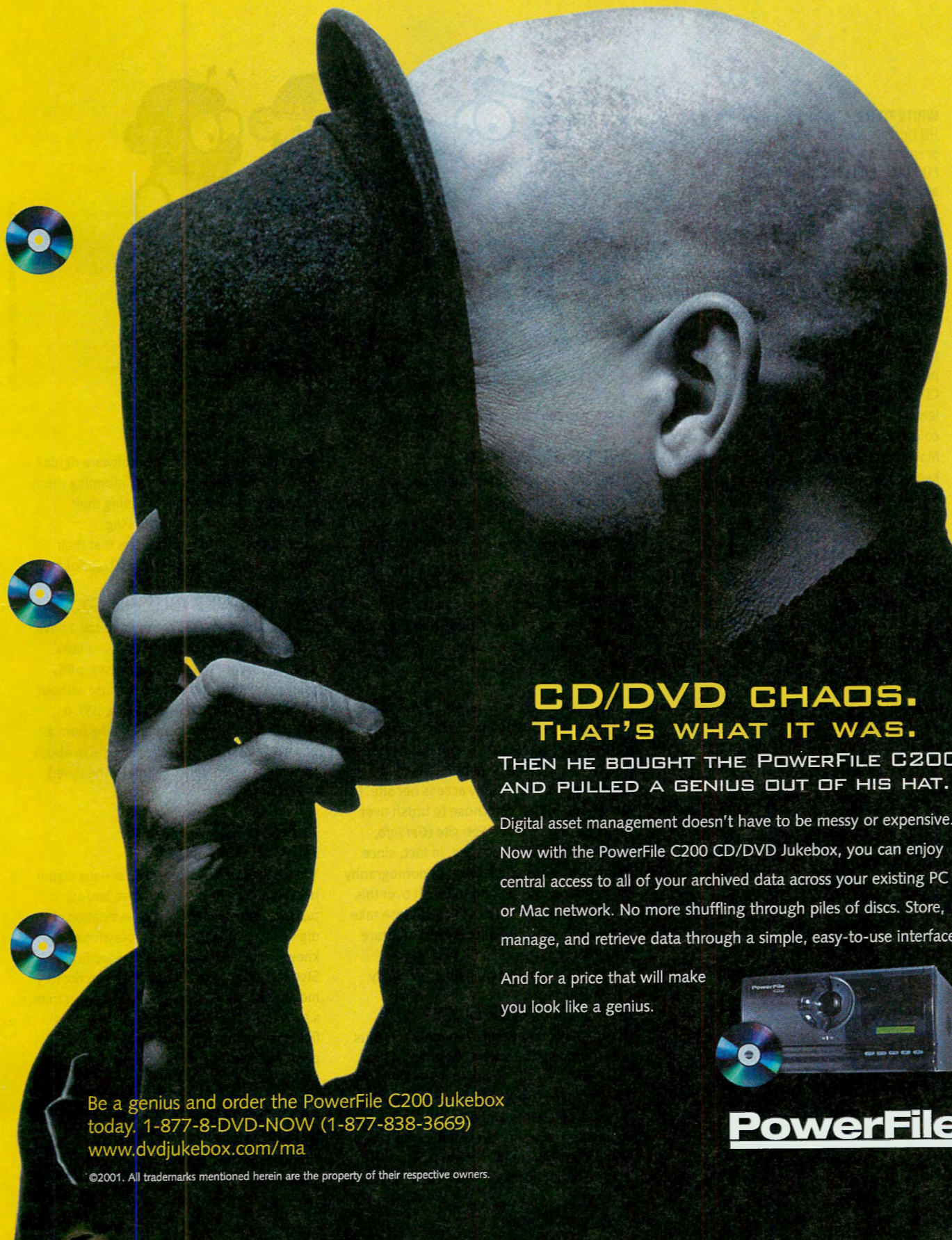
Q. *What is the strangest thing you've had to do for* MacAddict?

A. Sorry, but I've signed an NDA regarding anything that may or may not have occurred.

Q. *What will you miss least about Rob?*

A. His stubborn way of nearly always being right. Good luck in the real world, Mr. Know-It-All. See how far your publishing knowledge will get you in...uh, in...in the Mongolian steppes!

PORTRAIT OF OUR IT GUY, PRE-POWERFILE.



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Letters

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LIVE NUDE HARDWARE

Great magazine, but I take issue with the January 2001 issue. In the center of the mag ("Look & Feel," p24), I see the great, sexy photo layout of the Mac product line. My problem is that the images are not on the CD! You get my chops all watered up, just to leave me frustrated (talk about needing a cold shower). If you had inserted a Macintosh centerfold, I would have just keeled over. Take that, *Playboy!*
—Mack Willingham

GUESS YOU'RE NOT A VISUAL PERSON

What a great issue. I've always wanted to view huge close-up shots of Mac peripherals. This just goes to show that *MacAddict* has finally admitted it has *no* ideas, *nothing* useful or informative to write about, and will *never* come up with anything innovative in its teenybopper magazine. As soon as I saw this "feature article" in your latest issue, I moved on to better pastures—*Macworld.—gollum20*

Recently Sighted

I took these pictures while watching *Slander*—a movie from 1956! I wonder where they hid the mouse.—*Jeremy Lee*

Spooky!

ILLUSTRATION BY DAVID "HUBBA-HUBBA!" ROSS

Psst, you don't have to be 18 to buy this mag.

WE'RE DREWLING

I was watching the Drew Carey show, and I noticed that Drew got rid of his old Mac and bought the Cube. I was drooling as I stared at the new G4. What's really sweet is that Mimi already has an iMac. I envy those people on the Drew Carey show that have the privilege of using those beautiful machines. I also just noticed that Drew has an iBook at his house. Man, is he ever lucky.—*Gregory Coes*

THE *MAXIM* OF MAC MAGS?

JenniCam is porn due to the fact that she moves her camera to angle-in during her sex acts with Dex. That is immoral behavior, as underage kids can easily access her site. I am appalled that you chose to brush over this fact and tout her Web site (*Get Info*, Jan/01, p20). I am outraged, in fact, since many articles on the subject of pornography have discussed her, and to brush over this controversial topic is unethical. Please take a closer look at your assessment of future candidates for articles. Shame on you, *MacAddict*—very irresponsible!—*Felicity*

ARE YOU YOUR BOSS?

Although your magazine generally keeps us well informed, the article "Boss-Proof Your Mac" (Oct/00, p42) crossed a few lines. My boss not only subscribes to your magazine, but also purchases and owns all Macs on the premises. He has respect for his employees and probably wouldn't look at their information, but what if he wanted to? Who owns the computer and the software rights? He does, not the employees. Informing them to spend their work time covering their behinds is as bad as their having information on their computers that their bosses shouldn't see.—*gasp107@aol.com*

GEE, THANKS (BLUSHING)

The January 2001 issue arrived today. I have been looking for scanner reviews—thank you, thank you, thank you (*Reviews*, p66, p68, p70). Rob, you are just as cute without as with the goatee (*Editor's Note*, p8). (I hope this isn't too crippling coming from a gay man, but hey, subscribers write in about the cute women on your staff all the time.)
—Ken Matthews

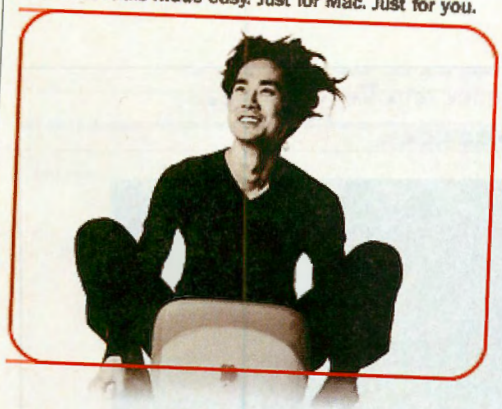
A PRINT IS WORTH A MILLION PIXELS

Thanks for Cathy Lu's article on serious digital photography (*Portrait of an Artist*, Jan/01, p42). It's interesting to see an evaluation of digital image quality from a professional who knows what he's talking about. Specifically, Stephen Johnson believes film is superior to 3-megapixel digital imaging for prints larger than 5 by 7. There is so much sloppy hype in this field that careful judgments from working photographers are especially valuable.
—Jerry Harris

NOT QUITE THE MESSAGE BILL INTENDED

I'm not too sure about Microsoft's new advertising campaign for Office 2001 Mac.

Microsoft Office:mac 2001
The essentials made easy. Just for Mac. Just for you.



Edit someone else's document electronically

Remove Office tools

Using Entourage to send and receive Hotmail

No, wait—the iBook just *looks* like a toilet seat cover!

Doesn't it look like this guy's taking a big dump on his iBook?—*Jean-Luc Dinsdale*

BRAVE NEW VIDEOS

I just viewed the staff video with the interview of photographer Stephen Johnson (*The Disc,* Jan/01), and I am pleasantly impressed. You guys are finally getting it. After suffering through many a strange and seemingly pointless video, I am glad to see that you are taking advantage of your resources. It was a great interview with a cool artist. Keep up the good work and watch your sound levels. —*Christopher Flory*

EDITING KILLED THE VIDEO STAR

I've been a reader since issue 1 and enjoyed your spiffy movies (especially the PeeCee bashing). Now you've crossed the line by moving into the information market (*The Disc,* Jan/01). Please, if you're going to film talking heads, let's see what the artist (Steve Johnson) is talking about. It's not necessary to watch a person talk, talk, talk. Cutaways to the photos mentioned add interest and help the flow. Cute dissolves...eeechh! Maybe the old film-editing adage says, "If you can't solve it, dissolve it"—but there are better ways. —*Kirk Schuler*

WHAT *IS* NORMAL, ANYWAY?

Why is that whenever I am missing something in the ever-present clutter of my room, my fingers go to the nonexistent Command-F keys? Am I addicted to Sherlock? Should I see a psychiatrist? Please tell me I'm normal! —*Andrew Oates*

ONE FOR THE RECORD

You don't pay much attention to a market in which the Mac has continued to dominate: the professional recording industry. The Mac has always been the professional engineer's machine of choice, whether for running a MIDI sequence, editing a waveform, interfacing with hard disk recording units, or capturing multitrack recording directly. I'd like to see reviews of professional audio software a little more often. Readers would find it some of the most challenging, interesting, and feature-rich software available. —*Sam Jordan*

We recognize this growing group of avid Mac users. Look for how-tos and other articles on audio software and hardware in upcoming issues.—Ed.

THE PRICE IS RIGHT

Just wondering how you could possibly give the Rio 600, a ridiculously underpowered MP3 player, your *Freakin' Awesome!* rating (*Reviews,* Jan/01, p53). It has a measly 32MB of internal memory, which provides less than 30 minutes of music. Yes, you can add more storage, but that adds another $100 to the price tag. And by the way, in your review of the Rio 500 (*Reviews,* Feb/00, p58), you mentioned that it suffers from "still-suspect memory capacity"—and yet it has 64MB, double that of the 600. The 600 should have received a *Yeah, Whatever* at best.—*Neil McDougal*

Of all the MP3 players in this price range, the Rio 600 performed the best—hence our rating.—Ed.

PROBABLY NOT

How could a 13-year-old strain of nVIR end up on The Disc (Jan/01)? Everyone knows that two plus two equals five, so obviously your Disc editor is really an evil spy from *Maximum PC* magazine, who still has System 6 running with the nVIR virus and is planning to infect all unsuspecting Disc users so *Maximum PC* can assist Microsoft and Intel in taking over the world.—*Dan Parnell*

The virus in the DarkRage Public Beta installer seems to work only on pre—Mac OS 7 machines, but the installer itself doesn't work on pre—Mac OS 8 machines. This means Macs that can run the installer are apparently immune, while Macs vulnerable to the virus can't run the installer. Of course, we offer our sincerest apologies that the little bugger got through our screening process.—Ed.

MacAddict.com Rumor Mill

Recently, Imagine Media, which publishes *MacAddict,* announced plans to downsize, spawning rumors that MacAddict.com would cease to exist. Some of you wrote in response. While the rumors were false (MacAddict.com continues to breathe), it gave us a chance to see what you really thought.

THEY LOVE US

You *can't* go away. A bunch of old men run your only competitor. The very fact that you even know what tomacco is keeps me reading your magazine and visiting your Web site.—*Tom Rehor*

Major bummer! I'll really miss Rich Pizor (MacAddict.com's former online editor), and I wish you well with the Web site. If it means something to you, I'm a subscriber and avid reader of your mag, and as for the Web site, I check out you guys every day and I really, really, really appreciate your expertise, your sense of humor, and your generosity of spirit. So there. Best wishes!—*Kate*

THEY LOVE US NOT

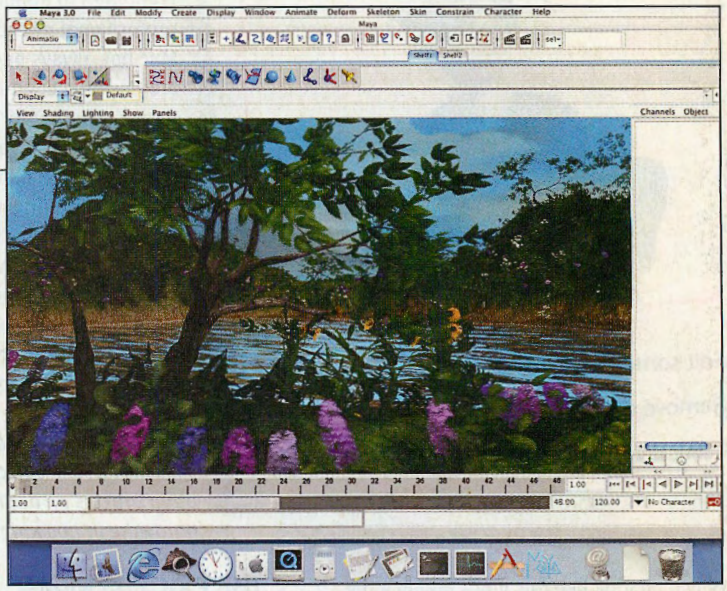
I read on your Web site today that you are laying off the Macaddict.com staff. I hope this means bona fide change is coming. The current Macaddict.com frankly stinks. First of all, there is that dangling mouse ad you refused to move. Second, there is the "content," which seemed like an excuse to show off your network banners rather than providing any useful stuff. I hope any new incarnation of MacAddict.com is actually worth my time. We'll see.—*Chris Turkel*

Your Web site looks like one of those cheap Mac-sale magazines that come to my house every other day. You could make your site fun and informative, but it looks cheap and the fonts are crappy. The green color is horrible, and there is so much blinking and flashing, it looks like a whorehouse of bad advertising. Now you have pop-up windows like a chintzy home page or a porn site. I really used to like your mag and your site, but something has changed.—*John Hannah*

Best and Brightest

Another Expo Brings Another Bumper Crop of Cool and Bizarre Mac Products

There are some constants in life: Apple will always be in turmoil, Motorola will always be light-years ahead of the competition in their own minds but struggling hard in reality, and Microsoft will always sway between good and evil to an alarming degree. It's time once again to revel in the fruits of another of life's little rituals—the coming out of cool and bizarre third-party applications and peripherals featured at January's Macworld Expo. Here are some of the niftiest things we've seen.—*IS*



These plants were just painted on with Maya's spectacular Paint Effects. If you're ready to pay thrice the cost of a 533MHz G4 for a software package, Maya is yours.

Maya

Alias|Wavefront (www.aliaswavefront.com)
Scheduled for release Q2 2001
$7,500 (SRP)

If there was ever any doubt that Mac OS X would attract developers to the Macintosh platform, the 3D animation masters over at Alias|Wavefront have eliminated it—and they've done it with style. Within a few months of the March 24 release of Mac OS X, Alias|Wavefront is planning to bring Maya to the Mac. If you're not drooling, you don't know Maya—this is the 3D powerhouse responsible for the pod racers in *Star Wars: Episode I*; the mummy in, er...*The Mummy*; and (shudder) the mouse in *Stewart Little*. But before your drool hits the floorboards, be aware that this is The Last Word In Three-Dimensional Animation. Alias|Wavefront knows it and has priced Maya accordingly.

FlashTrax

SmartDisk Corporation (www.smartdisk.com)
Availability unknown at press time
Price unknown at press time

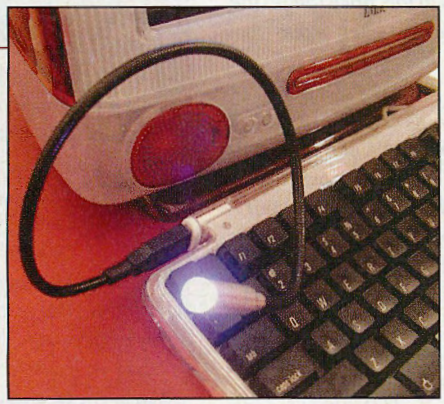
For those with computers, but no CD players!

This flash card–based device lets you play MP3s on any cassette tape player. It looks exactly like any other cassette tape—if you ignore the SmartMedia card slot in the top. Just copy MP3s onto a SmartMedia card, slip it into the FlashTrax, and stick the FlashTrax into a cassette tape deck. That's one for the road.

PHOTOGRAPHY BY W. B. JONES

FlyLight Notebook USB Light

Kensington Technology Group (www.kensington.com)
Available immediately
$19.99 (ESP)

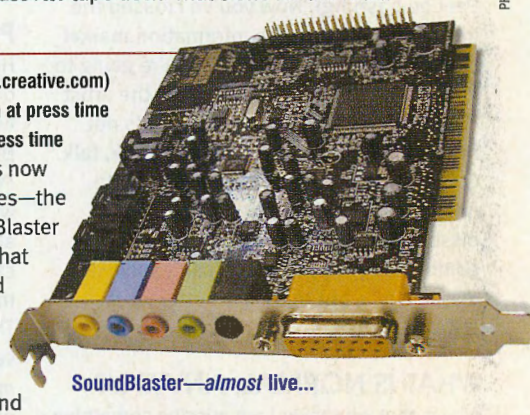


Now we can see the dust inside our keyboards!

When we built a FireWire flashlight in the February issue ("How to Light Up Your FireWire," Feb/01, p78), we tried to make it clear that we were just fooling around. Kensington's not kidding, though—they used the same concept to make a sleek, well-executed flashlight that plugs into a USB port. If you'd rather skip the solder fumes and get a device that doesn't look like you beat it with an ugly stick, this one might be for you—if you need a little light on you desk or you just like cool gadgets.

SoundBlaster Live

Creative Labs (www.creative.com)
Availability unknown at press time
Price unknown at press time



SoundBlaster—*almost* live...

Creative Labs has now lapped themselves—the ultra-cool SoundBlaster Live sound card that the company said was coming soon a year ago showed itself again this year, and it's... still coming soon. While we're getting a bit impatient, we're willing to wait—the card seems to be shaping up nicely, and it should bring amazing audio to the Mac when it ships (assuming they manage to beat Mac OS X—otherwise we may find ourselves with another wait on our hands).

Out of the Mouth of Jobs

During his Macworld Expo keynote address in January, Steve Jobs said several interesting things about the Mac and the PC industry in general. Here are a few selected tidbits.

"The last several months of 2000 were particularly challenging for us and our industry."
Understating recent PC market worries.

"Our goal is to never have Darwin Crash."
On lofty goals. (Darwin is the core of Mac OS X.)

"We know that Mac OS X is really laying the foundation for the next decade, decade and a half, for our software efforts."
On the importance of Mac OS X to Apple.

"We've read every single one."
On the 75,000 Mac OS X feedback submissions Apple has received.

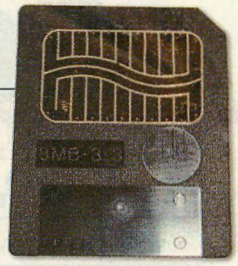
"We were late to this party, but we're here."
On including CD burners in the Power Macintosh G4 line.

"It's made out of titanium, like the spy planes."
On why the PowerBook G4 looks cool.

"My god—the brushed metal virus spread to the hardware."
Ian Sammis, on the PowerBook G4 Titanium case.—*DR*

Save My Digital Photos of My Baby!

Making Good Media Gone Bad Good Again



PHOTOGRAPH BY W. B. JONES

Although it may look like your friend, that piece of media is just *waiting* to abscond with your digital pictures.

If you're a digital camera enthusiast and you haven't lost any images to corrupt media or other snafus, count yourself lucky—and start counting the days until it will happen. Like it or not, the media that stores digital images can be fragile and finicky. But if your media card does go legs-up on you in the middle of photographing an alien invasion in a corn field, there *is* hope.

DriveSavers (800-440-1904, www.drivesavers.com), known for its daring feats of hard-drive data recovery, has just launched a digital image recovery service. For a fee typically ranging from $100 to $300, the company will do its darndest to recover your images. Turnaround time can be as quick as one or two days, but the extra speed will cost you. If it makes you feel better, Kodak, Nikon, and Olympus endorse DriveSavers' recovery process.—*DR*

MacAddict Labs | *Cordless Keyboard Conundrum*

PHOTOGRAPH BY W. B. JONES

That's right—someone sitting in a seat on the left can use a computer as far away as the monitor to the right, using Logitech's wireless keyboards. The question is, who would want to?

Logitech's line of wireless keyboards lets you untether yourself from your computer, keying in text from as far away as 25 feet (Logitech claims 6 feet, but others report much longer distances). This begs the question of what exactly you are going to see on a 17-inch monitor at that distance. We took it upon ourselves at MacAddict Labs to find out. We used a 2-foot viewing distance as our basis for comparison.—*DR*

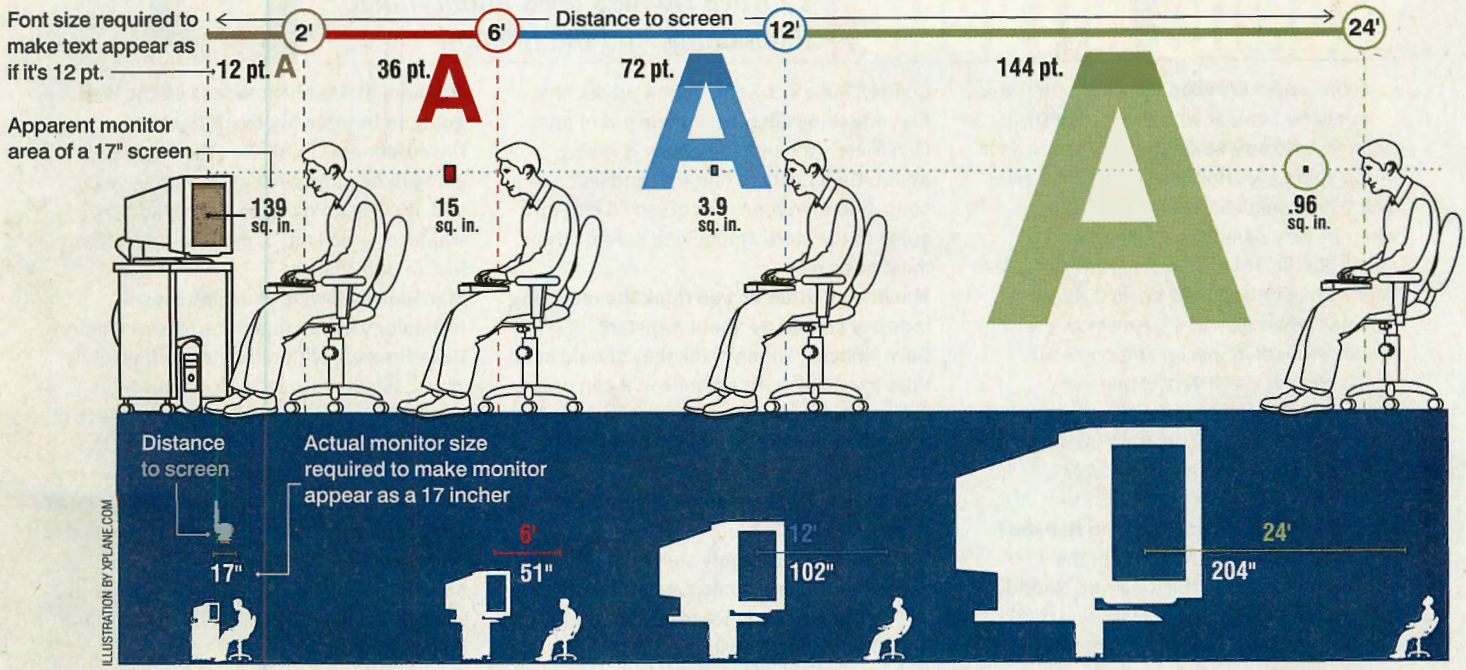


ILLUSTRATION BY XPLANE.COM

drool worthy

Raylink Wireless Networking Products

Raylink	www.raylink.com	$329 for access point, $69 to $89 per card

If AirPort's 150-foot range is just too short, Raylink may have the solution for you. Sacrificing speed for range, Raylink uses a different broadcast technology than AirPort's to shove a slower 2-Mbps signal out to 500 feet (1,000 if you've got a direct line of sight to the access point). The whole thing's Mac compatible, so if you want to get away from your base station without losing touch, Raylink's systems may be your best bet.—*IS*

When you want to keep your distance, you want Raylink.

PHOTOGRAPH COURTESY OF RAYLINK

Tactile Sound Modules

Clark Synthesis	www.clarksynthesis.com	$399 and up

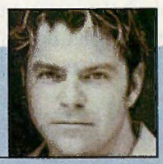
Sometimes no speaker is loud enough. Whether it's for music, for combat, or just to feed a really strong addition to startup chimes, occasionally you want sounds you can feel as well as hear. If you prefer to retain your valuable eardrums at the same time, check out the tactile sound modules sold by Clark Synthesis. These marvelous devices transmit the vibrations from sound directly into the solid object to which you mount them—so shove one under your chair and your music will pound through you, without all that messy bleeding from the ears.—*NC*

Give your spine the vibrations it craves with a Clark Synthesis tactile sound module.

PHOTOGRAPH BY W. B. JONES

Waxing MTVetic

VJ Dave Holmes talks about music, technology, and the Internet



If you constantly want *your* MTV, then you might be familiar with the face of Dave Holmes, who arrived on the MTV scene as a VJ two years ago. Holmes started his career as a DJ at a small St. Louis radio station when he was 14, and is a self-admitted music fanatic. He is also something of a Mac fanatic, having acquired his first Apple machine when he was 13. He's now the proud owner of a Special Edition iBook, which he uses as "a very expensive Walkman" for storing MP3s. Recently, we asked Holmes for his thoughts on music, the Internet, and the infamous Napster controversy.—*CL*

MacAddict: What is your take on Napster?
Dave Holmes: It's really good for the recording industry in the long run. Nobody thinks about the long run. Everyone thinks about what it's going to mean for this quarter. I use it to sample new artists and find rare things that have gone out of print. Or if there's a band somebody is raving about, then I'll try to find that and listen to a song, and nine times out of ten I'll end up going to the store and buying it. And I think most people do.

MacAddict: What do you think the recording industry should do about Napster?
Dave Holmes: I really think they should keep their hands off it, to be honest. It can prove to be beneficial to them the way radio is if they would just leave it alone and let it grow on its own.

MacAddict: What are some of your best Napster finds?
Dave Holmes: Just goofy stuff I thought only I knew about....You would never think there is such a thing as early Stacey Q, but there is. And I found it on Napster.

MacAddict: Are music videos on the Web going to become big like MP3s?
Dave Holmes: I think so....The Internet is going to become what cable was 15 years ago. It's just going to be a repository for whatever—the kind of messed-up stuff you find in pop culture.

MacAddict: How do you think overall technology has changed the music industry?
Dave Holmes: Within the next couple of years, as people start to use it more intelligently, it's going to pop in the place of radio and MTV. We don't break artists the way we used to—because of ratings, we just can't. It's difficult to take a chance on a new artist, and of course radio hasn't done that in years. But I'm waiting for the first break-out band from Napster, the first word-of-mouth, word-of-email success. It will happen in the next year or so.

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Mac

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VST

SmartDisk Personal Storage Systems

HACKitIN Making Stuff Work by Any Means Necessary

The Belkin OmniView SE 2-Port KVM

Whether it's the hands that don't stop shaking until that crucial 23rd cup of coffee, or the outrage he expresses that some local newsstand doesn't carry either *MacTech* or *C/C++ User's Journal*, a diehard geek is usually easy to spot. There's one acid test—go to a geek's house (assuming said geek is out of college), and you'll almost invariably find more than one computer.

If you're a neophyte geek, you may recently have encountered the flaw in multiple-computer nirvana. Unless you're willing to sacrifice your entire desk to keyboards, mice, and monitors, you're going to have trouble setting up both computers at once. The solution is a clever little device called a KVM switch. KVM stands for Keyboard, Video, and Mouse. Just flip a switch to control two different computers from a single keyboard, monitor, and mouse.

While that sounds great, USB-based KVM switches are still new enough so that they're hard to find on the used market. That's a shame, because KVMs are expensive beasts (typically over $100 for a two-port switch). PS/2-style KVM switches are much easier to scrounge, and you can get them working just fine with some extra parts.

We decided to use a PS/2-style KVM switch for a beige G3 and a home-brewed Linux box. We ended up needing three additional pieces of hardware: a VGA-to-Mac video converter to plug our VGA monitor into the G3's DB-15 video port, a PS/2-to-USB converter, and a USB PCI card. This hardware would be somewhat expensive new; make sure you can find used components if you don't want to spend more money than you'll save. At first everything seemed to work, but we soon encountered a new problem when the Mac's video abruptly cut out. It turns out the signal coming from the VGA converter got sufficiently distorted after passing through the KVM so that it simply couldn't drive the monitor. Swapping out the VGA adapter for another model (one that came bundled with a Sony monitor) solved the problem.—*IS*

PHOTOGRAPHY BY W. B. JONES

With a KVM, you can lose those geekier-than-your-desk-space blues.

Connect your keyboard, monitor, and mouse to these ports.

Connect this end to your computers.

Read Me!

Canon Scanner Finds Home with Creative Writer

Back in our December 2000 issue, we challenged you to interpret the text on the Read Me icon in Mac OS X Public Beta. You responded with a variety of creative (and nonsensical) items. Andy Putschoegl won the Canon scanner (the first prize) with this creative interpretation:

Ah and was here it then drama digested in the lingerie of lips o clickable dolls shall appear in whip related to Lincoln bedroom on donor of million we found that his hat ain't got mice.
santas and firewire and the hack himself suspect to survive to be basic heroes age 11.

His statement: "I believe it's some sort of haiku. Beautiful, really." Now before you go crawling all over Andy's case about haiku having a specific structure, give it up. He knows and we know. You can read the best of the rest of the entries—and they are worth reading—at www.macaddict.com.—*DR*

Andy Putschoegl read me and won a scanner!

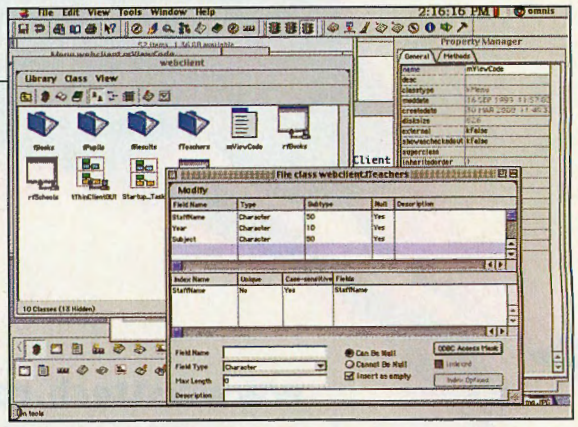
The 4GLympic Games

Danger: Steep Learning Curve Ahead

Find Omnis Studio 3 on The Disc.

OK, all you Mac coding fiends—we've got a challenge for you. The prize: three copies of Omnis's bewilderingly complex but outrageously powerful Omnis Studio 3.0 Web Edition ($1,179). The challenge: demonstrate your worth as a programmer by figuring out Omnis well enough to send us a working, useful Omnis application before April 30. Send your entry to contest@macaddict.com with "4GL" as the subject line.

Omnis is giving *MacAddict* readers the Lite version of Omnis Studio for free, so to get started just browse over to www.omnis.net and click Buy, then Lite Registration. The password you should use is MA001 (that's MA zero zero one). Once you enter your registration code, you'll have Omnis Studio Lite. Entries should differ significantly from the templates provided by Omnis—we'll be judging them on originality, aesthetics, and functionality.—*IS*



If you can figure out one of the orneriest (but most powerful) databases out there, you might get $1,179 worth of software!

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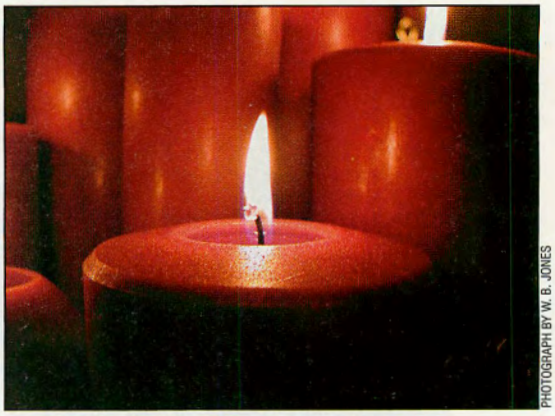
Shareware Pick of the Month

Melancholytron

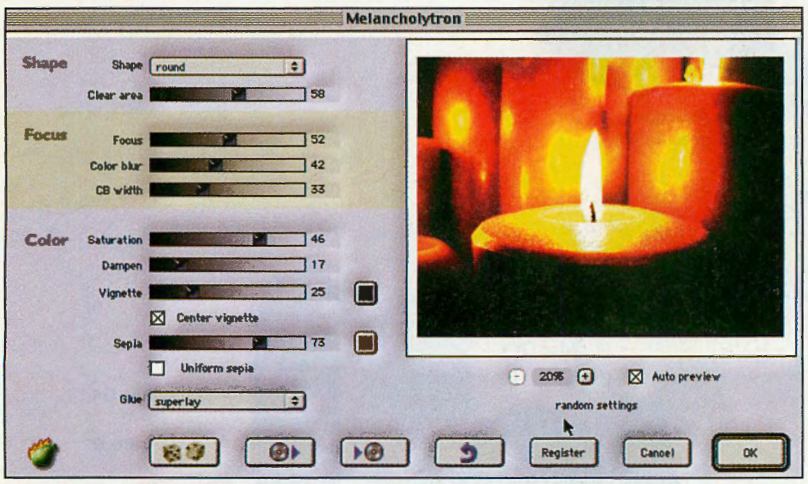
PRICE: $20 **URL:** www.flamingpear.com

If you're the sort of dreary person who uses Photoshop to express the pathos of your life, the plug-in meisters over at Flaming Pear have got a tool right up your depressing little alley. Melancholytron lives up to its name—it can alter even the happiest, most cheerful photos to give them a darker, more brooding impact. It exhibits the usual thoroughness Flaming Pear brings to its products—you can easily fine-tune the filter's effects to create just the right combination of sepia tone, desaturation, blur, and vignette, bringing a moody sigh to even the most irritatingly upbeat picture.–*IS*



PHOTOGRAPH BY W. B. JONES

Granted, this shot already has a nostalgic look.



You can tweak Melancholytron's options to create a host of beautiful (if not terribly cheerful) effects.

Melancholytron makes the original shot look positively joyous by comparison.

Scripter's Corner

Writing a File

While most scripters are satisfied with simply controlling Mac applications, occasionally you need to go a bit further. Sometimes there's just no substitute for creating a text file, whether you want to import it into a database or open it in a word processor. Thanks to a useful scripting addition that comes with the Mac OS, it's pretty easy to create a file from a script. To see how it works, take a look at this script, which writes the contents of a folder to a file.—*IS*

Here's how to write a file from a script.

```
copy (choose folder with prompt "What do you want a list of") to thefol
tell application "Finder"
    set thelist to every item of thefol

    copy (open for access the file "Macintosh HD:ScriptGenFile" with write permission) to refnum

    try
        repeat with thefile in thelist
            write (thefile as string) & "
" to refnum
        end repeat
    end try

    close access refnum
end tell
```

The `choose folder` command lets you pick a specific folder to list. The outer `copy` command stores the chosen folder in a variable called `thefol`.

From here on, you'll be issuing commands to the Finder.

This line just creates an AppleScript list of the contents within the folder you chose in the first line.

To start writing a file, you issue an `open for access` command. Since we're choosing `with write permission`, AppleScript will create the file if it doesn't exist already. The command returns a special reference number that the script associates with the file as long as it remains open; we store the number in a variable called `refnum`.

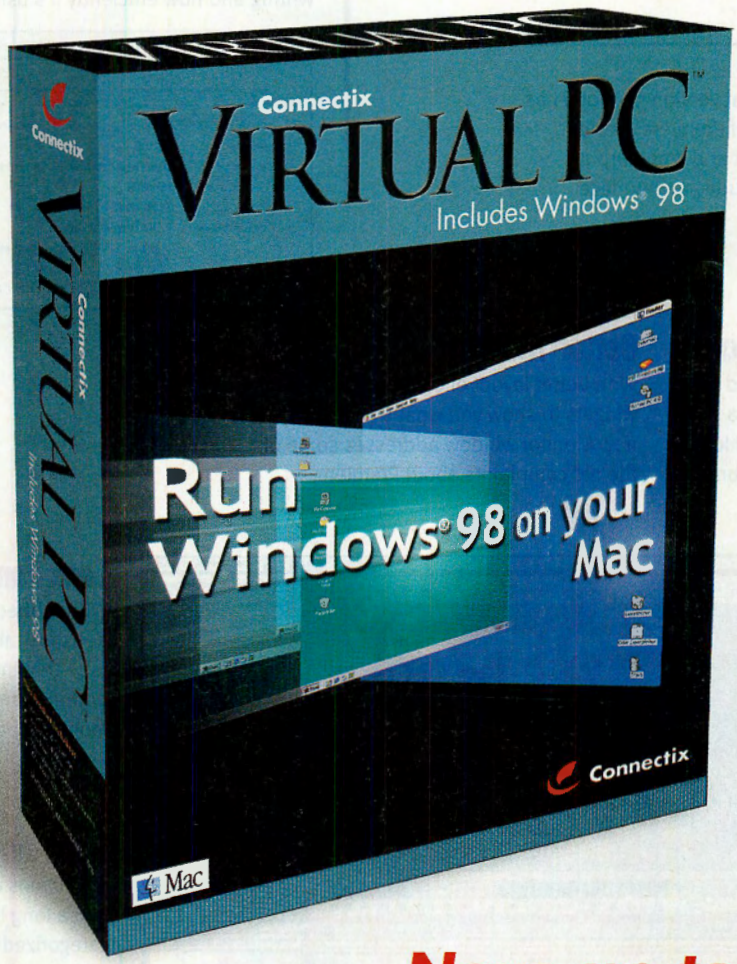
The `repeat with` *variable* `in` *list* construct executes the commands it contains once for each element in the list. Here we use it to write each file in the list separately.

It's very important that you close the file properly before the script exits; otherwise the Finder will mark the file as in use, making it impossible to access. This `try` block guarantees that the `close access` command at the end will execute, even if the script encounters errors.

Here's the meat of the routine—this line writes each file's name in turn to the disk. Using `thefile as string` like this writes an entire path name (for example, Macintosh HD:Apple Extras:AppleScript:Script Editor instead of simply Script Editor). If you just want the name itself, replace `thefile as string` with `the name of thefile`.

The `close access` line is extremely important—it tells Mac OS that the script is done meddling with the file, meaning that the file's no longer in use.

A More Powerful Virtual PC



Now, up to twice as fast!

Virtual PC 4 puts a fast, powerful PC inside your G3 or G4 Mac, enabling you to run PC applications, access PC networks, share files with PC-based colleagues, and use PC-only services and applications. The latest version of this award-winning software from Connectix runs PC operating systems up to twice as fast as previous versions, so it's easier than ever for Mac users to stay compatible with the PC world.

What's new in Virtual PC 4? Improved features in Virtual PC 4 include faster performance, larger disk images, easier to use interface and help system, and the ability to run multiple PC operating systems simultaneously. Run PC software faster and better than ever with Virtual PC from Connectix. Go to www.connectix.com for more information or to purchase Virtual PC.

Come Visit us at Booth #1407 during Macworld SF.

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Connectix

scrapbook

And you thought Ray Jay Johnson was unsettling.

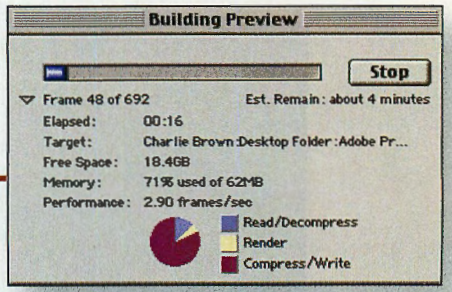
Premiere 6

by David Reynolds

After a few years of hanging out at version 5, Adobe has finally released a new version of Premiere. Besides including native digital video support and Web output capabilities (finally!), Premiere 6 includes an interface revamp. Here's a look at what's new.

Improved Preview

When you build a preview of your masterpiece, Premiere now gives you some feedback on how things are going, including how many frames per second it's writing and how efficiently it's using memory.

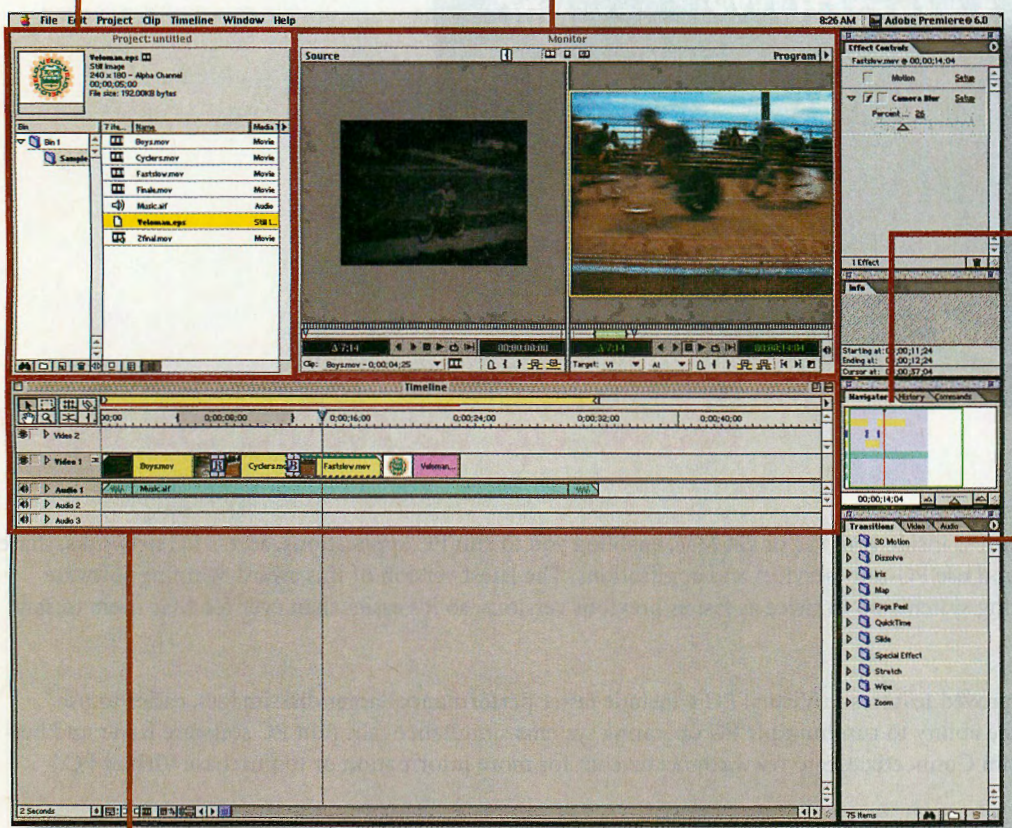


A Brand-New Project Window

No longer do you have to use the bland project bin—Premiere 6 now includes a preview, hierarchical folder views, and lots of Photoshop-like tools along the bottom.

Better Monitor

With better layout of controls and more widgets to show you what's going on, the new Monitor window addresses some of the old complaints about Premiere.



Look Familiar?

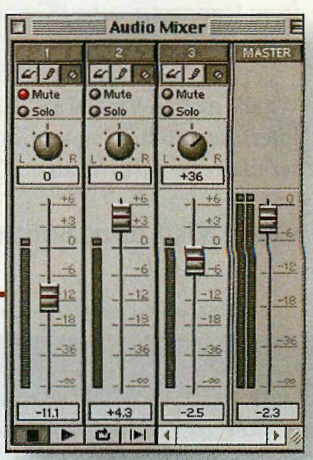
With tabbed palettes—including a History tab and a Navigator tab—that include controls at the bottom, Premiere looks more and more Adobefied all the time.

Tempting Transitions

Transitions are no longer stuffed into a long list—now they are categorized in hierarchical folders. Video and audio effects also find homes here under their own tabs.

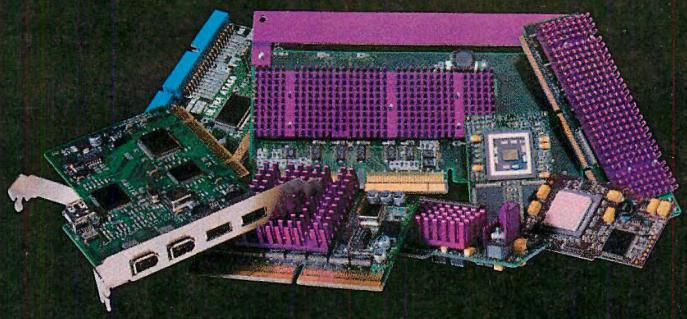
Updated Timeline

Premiere's venerable timeline view now includes a new mode—single-track editing. The timeline also provides a keyframe track, audio track buttons (for quick feature access), and the ability to add new tracks by just dragging a clip.



Mixmaster Mode

The new audio mixer window lets you exercise pinpoint control over your Premiere audio tracks.



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SEX, POWER, ROCK 'N' ROLL

Apple's new strategy appeals to the three vice groups

by the MacAddict Staff

Back in October 2000, Steve Jobs performed the unenviable task of telling the world that Apple would have a smaller-than-expected profit for the fall quarter and that the business side of things would be rough going for the next few months. Jobs pointed to several causes for the profit shortfall, including the megahertz gap and a soft overall PC market. Not a man to be caught without a plan, Jobs said that the company would come out with faster Power Macs and all-new applications to take advantage of Apple's unique position as the developer of both hardware and software—a combination that met tremendous success in the iMac and brought USB forward as *the* standard peripheral connection for the entire PC world.

Now that Apple's spring lineup is out, it's clear that Apple means to make good on its promises. With the top Power Macintosh G4s running at 733MHz and the introduction of an ultraslim, ultrasexy PowerBook G4, the hardware line is seductive and mighty. And with new MP3 and DVD software (and CD burners in every G4 tower), Apple's got the rock 'n' roll department covered, too. You're gonna want one of these new Macs—we guarantee* it.

* Not a guarantee.

Steve Jobs's Golden Age

Although some have declared the PC dead—and we mean PC in the broader sense—Apple believes that this just isn't the case. In fact, Steve Jobs believes the PC is evolving, not expiring, and at his Macworld Expo keynote, he identified three Golden Ages of computing (of course, he also outed himself as a history neophyte, since real historians know there can't be three Golden Ages without a Dark Age thrown in for good measure). Nevertheless, Jobs pointed to the Golden Ages of Productivity, the Internet, and the Digital Lifestyle, which entail respectively the explosion of spreadsheets and desktop publishing, email and the Web, and modern digital gadgets such as MP3 players and digital camcorders. Apple is banking on the Digital Lifestyle and plans to be there first with new iMovie-like applications and killer hardware. While that might serve as a fine strategy for a multinational computer company, it doesn't do much for the individual. So here's our take on the true Golden Ages for Mac users.

• **THE NEW MAC**—There's nothing like that honeymoon—when you first pull your shiny new Mac out of its Styrofoam and fire it up. This Golden Age lasts anywhere from a few days to several months.

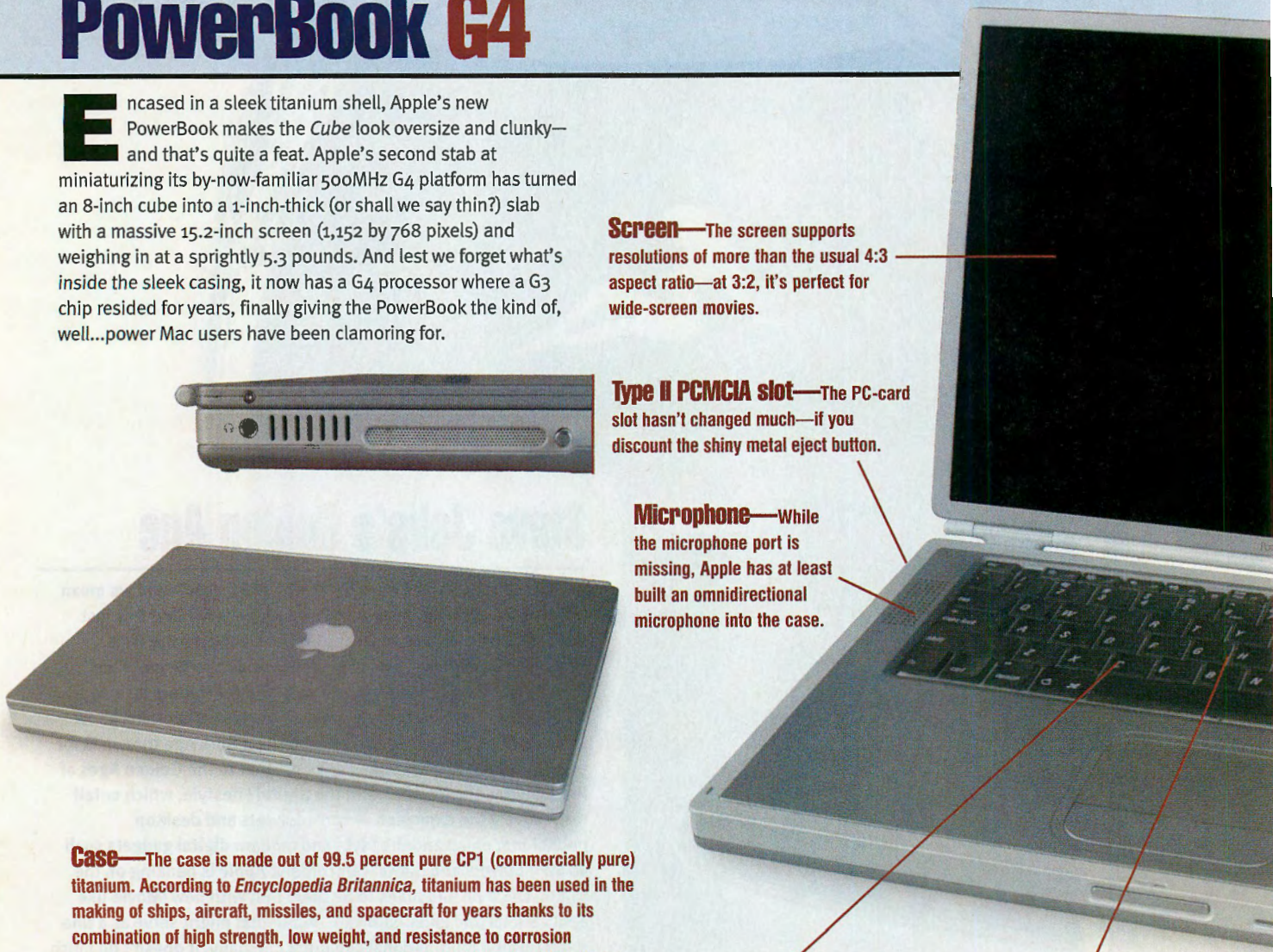
• **DISCOVERING THE INTERNET**—The first time you receive email from an old friend or use the Web to find out what's causing that unsightly rash are enough to give you warm fuzzies. Those feelings should last for weeks, that is, until the spam starts pouring in. Then *that* Golden Age crumbles like the Roman Empire.

• **GETTING GAME**—When you first take the plunge into gaming—whether that means your first spin behind the wheel in 4x4 Evolution, your first kill in Unreal Tournament, or that initial property buy in Monopoly (OK, not really)—the glow of that experience is likely to make for one of the more enduring Golden Ages.

• **UNBRIDLED CREATIVITY**—After that first digital print slides out of a photo printer or you show off your *Blair Witch* iMovie parody, you'll get hooked and remain addicted to this creative outlet—at least until your significant other ends this Golden Age abruptly and tells you to knock it off. And that's what Jobs is counting on.

PowerBook G4

Encased in a sleek titanium shell, Apple's new PowerBook makes the *Cube* look oversize and clunky—and that's quite a feat. Apple's second stab at miniaturizing its by-now-familiar 500MHz G4 platform has turned an 8-inch cube into a 1-inch-thick (or shall we say thin?) slab with a massive 15.2-inch screen (1,152 by 768 pixels) and weighing in at a sprightly 5.3 pounds. And lest we forget what's inside the sleek casing, it now has a G4 processor where a G3 chip resided for years, finally giving the PowerBook the kind of, well...power Mac users have been clamoring for.



Screen—The screen supports resolutions of more than the usual 4:3 aspect ratio—at 3:2, it's perfect for wide-screen movies.

Type II PCMCIA slot—The PC-card slot hasn't changed much—if you discount the shiny metal eject button.

Microphone—While the microphone port is missing, Apple has at least built an omnidirectional microphone into the case.

Case—The case is made out of 99.5 percent pure CP1 (commercially pure) titanium. According to *Encyclopedia Britannica,* titanium has been used in the making of ships, aircraft, missiles, and spacecraft for years thanks to its combination of high strength, low weight, and resistance to corrosion (titanium can survive immersion in seawater for several years, although we wouldn't vouch for the electronics inside the PowerBook). And no, this picture isn't backwards—Apple has flip-flopped the logo on the lid so that the apple is upright when the PowerBook is open.

Processor—The low-end model comes with a 400MHz G4, while the high-end model offers 500MHz of power. For a notebook, this is pretty darn speedy—even considering that the desktops have moved on to faster and better things.

Memory architecture—The PowerBooks don't sport the 133MHz bus the new towers have; they're still at 100MHz. The two SO-DIMM slots can support up to 1GB of RAM.

The Tale of the Tape

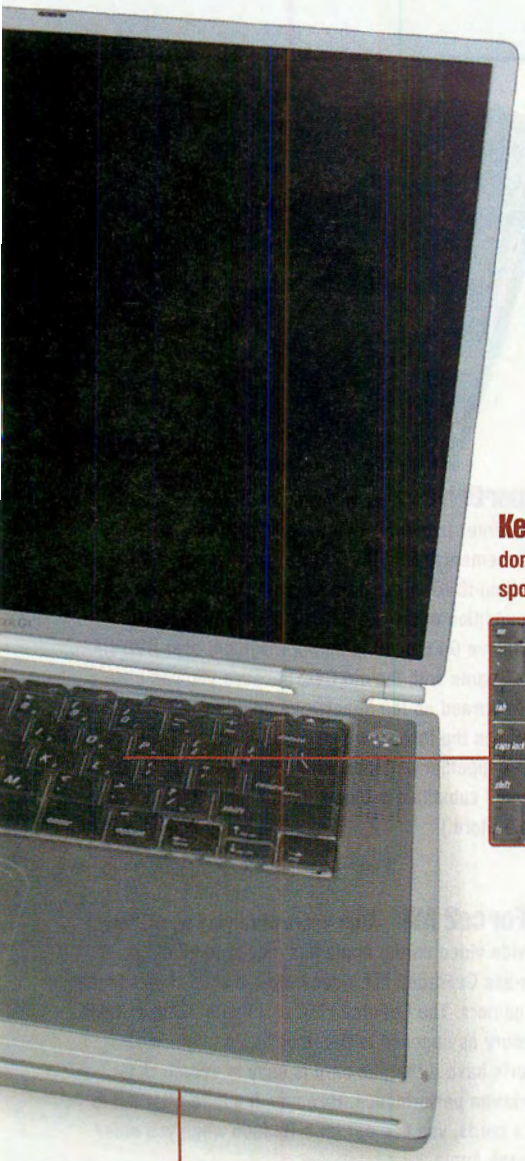
The PowerBooks appear to be on a yo-yo diet—they've slimmed down and then thickened out enough times to warrant a trip to any eating-disorder treatment facility. Here are some notable milestones in PowerBook weight-loss history.

PowerBook	Macintosh Portable	PowerBook 100	PowerBook 180c	PowerBook Duo 280c
Introduced	September 1989	October 1991	June 1993	May 1994
Size	4.05 by 15.25 by 14.83 inches	1.8 by 11 by 8.5 inches	2.34 by 11.25 by 9.3 inches	1.5 by 10.9 by 8.5 inches
Weight	15.8 pounds	5.1 pounds	7.1 pounds	4.8 pounds

So Which One?

Apple's got three versions of the PowerBook G4 (although the two top-end models are almost identical). All of the PowerBook G4 models come with slot-loading DVD-ROM, an ATI Rage Mobility 128 video card with AGP 2X and 8MB of video memory, a 56-Kbps modem, 100-Mbps Ethernet, two USB ports, and one FireWire port.

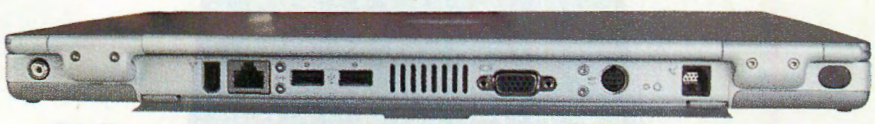
400MHz G4	500MHz G4	500MHz G4
1MB L2 cache at 200MHz	1MB L2 cache at 250MHz	1MB L2 cache at 250MHz
128MB RAM	256MB RAM	256MB RAM
10GB hard drive	20GB hard drive	30GB hard drive
$2,599	$3,499	$3,997



DVD-ROM drive—The slot-loading DVD drive reduces the footprint of the device to *little more than a thin gash.*

Keyboard—The keyboard looks familiar, but Apple's done great work with magnets and metal to kill that spongy keytouch that afflicted older PowerBooks.

Battery—Situated underneath the PowerBook, the new titanium bombshell features a LiIon battery with five hours of life.



Ports—The PowerBook G4's complement of ports should look familiar—the usual PowerBook ports are all represented, right down to the IrDA port—a 4-Mbps infrared port to communicate with other PowerBooks.

	PowerBook 5300ce/117	PowerBook 2400c	PowerBook G3 (FireWire)	iBook (FireWire)	PowerBook G4
	August 1995	May 1997	February 2000	September 2000	January 2001
	2.2 by 11.5 by 8.5 inches	1.9 by 10.5 by 10.5 inches	1.7 by 12.7 by 10.4 inches	1.8 by 13.5 by 11.6 inches	1.0 by 13.4 by 9.5 inches
	6.2 pounds	4.4 pounds	6.1 pounds	6.7 pounds	5.3 pounds

Power Macintosh G4

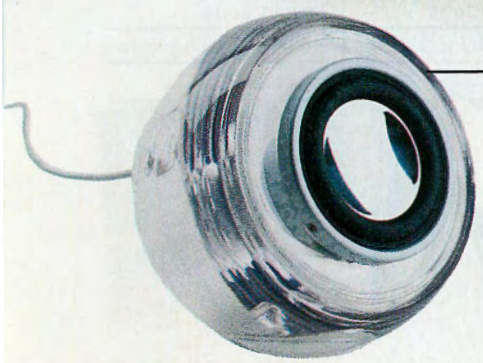
Since its introduction in August 1999, the Power Mac G4 has been a wonder of design and power. It's also been mired at 500MHz and below—until now. The latest generation of G4 power shatters the half-gig barrier, boasting speeds of up to 733MHz (up to 5.5 gigaflops). With this kind of speed (and recognizing that the faster G4 chips will be hard to come by for a while), Apple has decided that a single processor *is* fast enough for now, so the only way you can get an Apple-original dual processor Mac via the build-to-order option or by snatching up one of the few remaining multiprocessor G4s Apple announced last July (if you can find one).

The processor speed bump is just the start of things for the new G4 line. Apple has bumped the system bus (which shuttles between hard drive, processor, RAM, and so on) to 133MHz from 100MHz in previous models. Apple dropped an nVidia GeForce2 MX (a killer graphics card) into the three top-of-the-line models. Unfortunately for the budget-conscious, the low-end G4 model still has the ATI Rage 128 Pro card. However, all of these cards appear in the new 4X AGP slot for faster graphics power. Also, to suit the audio and video crowd, the company from Cupertino added one PCI slot—bringing the grand total to four. Finally, Apple has changed the CD/DVD drives in these bad boys. The three low-end models get CD-RW drives in lieu of DVD, while the highest-end model gets a hybrid CD-RW/DVD-R drive dubbed the SuperDrive—giving these Macs a capability that, as of press time, no PC possesses. With the SuperDrive and iDVD or DVD Studio Pro (see p30), Power Mac G4 users can create their own DVDs and play them back in any consumer DVD player.

SuperDrive—This combination CD/DVD reader and burner is the crown jewel of Apple's hardware achievements. With the 733MHz model, Apple is bundling iDVD, a program for creating DVD interfaces. The addition of the SuperDrive (if only to the most expensive G4 model) is an improvement over DVD-RAM, which came with the old G4s, because you can play DVDs burned on the SuperDrive on any consumer DVD player. In the three low-end models, Apple discarded DVD altogether and instead included only CD-RW. (You can still substitute a DVD drive for a CD-RW from the Apple Store.)

GeForce2 MX—After years of relying on ATI to provide video cards, Apple has moved to nVidia's kick-ass GeForce2 MX video card—a solid choice among PC gamers. The GeForce2 MX ships with 32MB of video memory as opposed to the Rage 128's 16MB, and reports have it that the card is easy to overclock for maximum performance. However, if you're attached to ATI's cards, you can opt for a Radeon when you order through Apple.

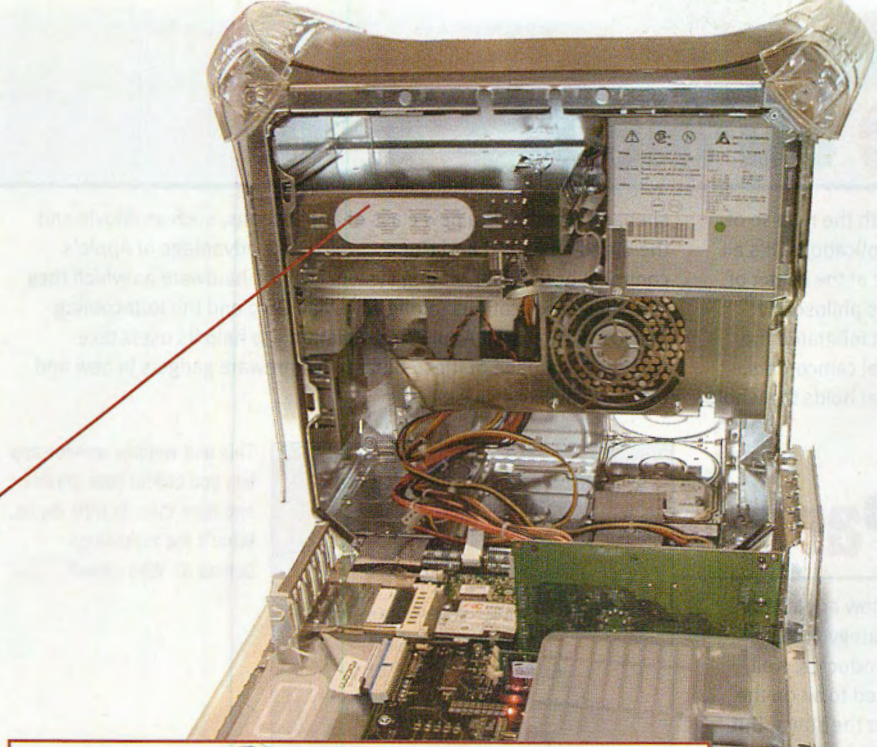
Fourth PCI slot—After years of complaints from high-end audio and video people that three PCI slots just aren't enough, Apple has finally come through with more—one more, that is. Combine that with an AGP slot for video, and we're finally getting back into a real pro-level system.

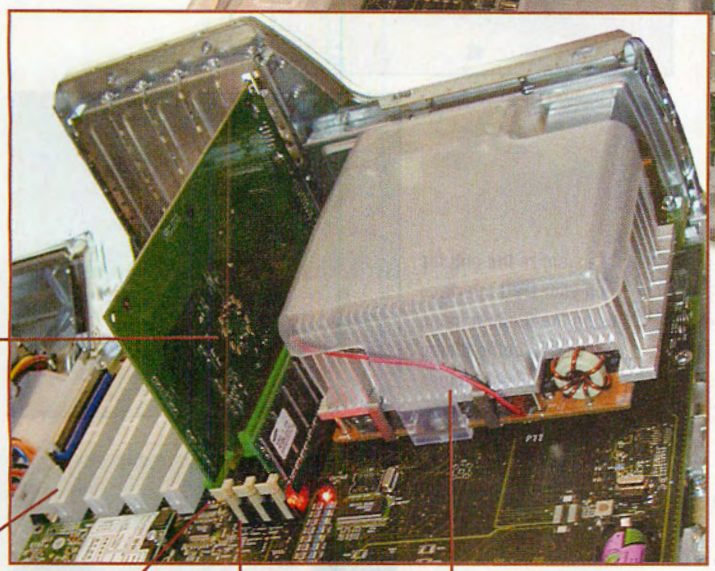


Brand-New Tunes

To go with the new G4 tower (as well as with iTunes), Apple has released the Apple Pro Speakers, which go for $59. These speakers work with a 20-watt audio amplifier built into the new G4 tower, and they plug into the tower's speaker minijack. The speakers, which look very much like the speakers that ship with the G4 Cube, deliver a frequency response of 70 to 20,000 hertz—not bad for such teeny little balls.

4X AGP slot—Apple is bringing the Mac up to speed with the PC side of things—not only in processing power, but also with the AGP slot, which it has boosted to 4X from 2X to make graphics just that much faster.





G4 processor—There are two flavors of G4 chips in the next-generation Power Macs. The 466MHz and 533MHz models are the G4s we all know and love, with 1MB of backside L2 cache to keep instructions and data flowing. The two higher-end G4s, the 667MHz and 733MHz models, are a new kind of G4, offering 256K of on-chip L2 cache *and* 1MB of backside cache (L3, in this case), which keep things moving along at a brisk pace.

Three RAM slots—That's right. Instead of the four RAM slots the previous generations of Power Macs had, the newest line has just three. The ceiling's still way high, though: You can pack 1.5GB of RAM into these models.

You Want One?

Apple has four new G4 configurations to make your consumer decision easy—although you can still customize your purchase at http://store.apple.com. All of the following models come with gigabit Ethernet, a 56-Kbps modem, a 4X AGP slot, and four PCI slots.

466MHz G4

128MB RAM
30GB 5400-RPM hard drive
CD-RW drive
ATI Rage 128 Pro with 16MB video memory
$1,699

533MHz G4 (Also available in a dual-processor model for an extra $300)

128MB RAM
40GB 7200-RPM hard drive
CD-RW drive
nVidia GeForce 2MX with 32MB video memory
$2,199

667MHz G4

256MB RAM
60GB 7200-RPM hard drive
CD-RW drive
nVidia GeForce 2MX with 32MB video memory
$2,799

733MHz G4

256MB RAM
60GB 7200-RPM hard drive
SuperDrive (CD-RW/DVD-R) with iDVD software
nVidia GeForce 2MX with 32MB video memory
$3,499

How Fast Are Those Drives?

Now that Apple has ditched DVD-ROM and DVD-RAM in favor of CD-RW and the SuperDrive, here's a quick look at the kinds of speeds you'll be getting.

Model	CD Write	CD Rewrite	CD Read	DVD Write	DVD Read
CD-RW	8X	4X	32X	N/A	N/A
SuperDrive (CD-RW/DVD-R)	8X	4X	24X	2X	6X

The Software Strategy

Apple announced a new guiding strategy with the release of iDVD and iTunes, a brand-new genre of applications. It's all part of a Sony-style strategy to put the Mac at the center of what Apple calls the Digital Lifestyle. At its heart, this philosophy makes the Mac the hub of all the digital widgets that infiltrated the market during the last few years—MP3 players, digital camcorders, DVD players, PDAs, and digital cameras. The glue that holds the whole shebang together is a new class of applications, such as iMovie and the brand-new iDVD and iTunes, which take advantage of Apple's control of both the operating system and the hardware on which they run. These applications (along with Mac OS 9 and the forthcoming Mac OS X) represent Apple's new mantra—to help its users take creative advantage of these ultraspiffy hardware gadgets in new and exciting ways.

iDVD Joins the Party

Normally, touting a product as a single-window application is probably not the smartest marketing strategy in the book. It might lead one to think that the product is, well, simple—like your not-quite-right cousin Earl who used to sit on the front porch muttering about them little people under the stairs. But when the one-window wonder burns your iMovies, QuickTime files, and photo stills to DVD media, which you can view on a commercial DVD player without worrying your pretty little head about the technology behind it, *simple* turns out to be a damn good thing.

That's what Apple's new iDVD does. Oh, and it's free, provided you've kicked down the dough for a new high-end Power Mac G4 with a CD-RW/DVD-R SuperDrive. iDVD comes bundled with that machine. (But what's $3,500, anyway?)

Creating the DVD interface in iDVD is easy. Just drag flicks from your desktop into the main window—you can fit a total of six buttons inside the interface. By flipping through the frames of your movie, you can choose one of the stills as an icon for the button that will launch the movie. No problem if you have more than six flicks to distribute—you can create folders in any slot, which allows you to list multiple movies or photos in submenus.

Of course, iDVD wouldn't be a proper Mac app if it weren't customizable. Clicking the Theme button in the toolbar at the bottom of the window brings up a variety of backgrounds that transform the look of your DVD interface—styles include leather, chalkboard, photo album, road map, and a variety of other fun-filled themes. Still not customized enough for ya? (Or is the predesigned background kitsch too hokey?) No problem. You can import your own still image to use as a background. Use the Custom menu to choose fonts and sizes for your DVD buttons, and choose from nine different button shapes.

You can also create a slide show of still images, though using iDVD solely for this purpose seems a little bit like overkill for the family photographer. But for those looking to create a portfolio of high-quality photography that wouldn't easily fit on other media—or that deserves to be displayed on a large-screen TV—it could be the way to go.

Now you're ready to burn your disc. Click the Burn DVD button on the toolbar at the base of the screen, insert your DVD media, and go grab some dinner while iDVD writes your movies to disc. Actually, iDVD's MPEG compression technology is relatively speedy, according to Apple—30 minutes of source footage should take approximately an hour to burn.

iDVD carries further the desktop revolution started by iMovie. Sure, when you unwrap your birthday gift next year and find a DVD with footage of your niece's first tooth instead of *Fight Club*, you may not be so glad about it. Nevertheless, iDVD is pretty cool.

This one-window wonder-app lets you collect your movies and burn them to DVD media. What's the technology behind it? Who cares?

Customize the buttons on your DVD interface using the Custom menu in the Theme dialog box. Hint: Heart shapes show you care.

Burn, baby, burn. With Apple selling DVD media at $10 a pop, you can a have a veritable disco inferno right in your 733MHz G4.

DVD Studio Pro: The Forgotten App

Apple completes its professional video solution with DVD Studio Pro, which Steve Jobs breezed over at Macworld Expo and which he billed as the perfect complement to Final Cut Pro. Perfect, we're not sure, but we do know that it will let you encode video in MPEG-2 and audio in Dolby Digital. You can work with up to 99 video tracks, customize DVDs with still or motion menus, and create interactive, direct links to the Web. DVD Studio Pro costs $999.

iTunes—The i Stands for—Uh, Well, Something

iTunes—not to be confused with iTools, please—is Apple's new, freely downloadable MP3 player. This killer bit of software can convert songs from audio CD to MP3 format, tune in to Internet radio broadcasts, interface with hardware MP3 players, and even burn CDs full of MP3s. There's a caveat with that last bit, though—iTunes can only burn CDs using the new Power Macintosh G4 tower's CD-RW, at least until Apple releases some promised plug-ins for the most popular CD-RW drives. The interface bears a *striking* resemblance to Microsoft Entourage (or Outlook Express), but we won't tell Microsoft.

Controls—There are three transport controls (back, play/pause, and forward) and a volume slider. What else could you need? Incidentally, Apple got this set of controls right, avoiding the interface problems that plagued QuickTime Player 4.0.

Status window—This window switches between showing you the song title, the artist and elapsed time, and an equalizer view for a more visceral take on your tunes.

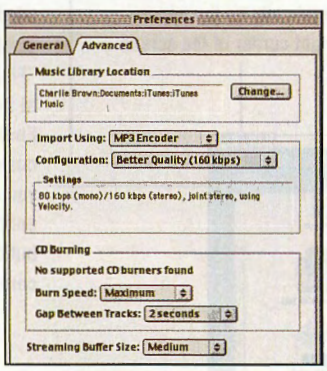
Search—By typing a few letters or words into this box, you can search for a particular artist, album, song, topic, whatever.

Browse view—Click the Browse button, and iTunes will let you peruse your music library by artist and/or album.

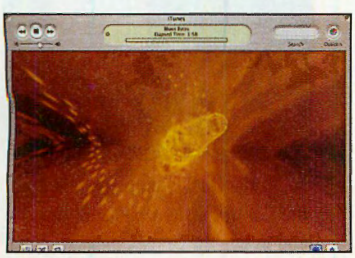
Music sources—iTunes keeps all of your music sources available in this resizable column, including your music library, Internet radio stations, any hardware MP3 players you have plugged in, and playlists you've created. Just click a music source on the left, and its contents show up on the right.

Playlist—Your music collection shows up here, with resizable and sortable columns.

If you choose Shop For iTunes Products from the File menu, you'll end up at a convenient Apple Store page online, where you can buy CD-RW media, speakers, and the like.



You can easily set iTunes' preferences, including how fast you want to burn CDs, the thickness of your buffer, and how the MP3 encoder does its job.



Look familiar? Users of SoundJam will find the iTunes' visual effects plug-in looks like a piece of home.

Setting Up iTunes

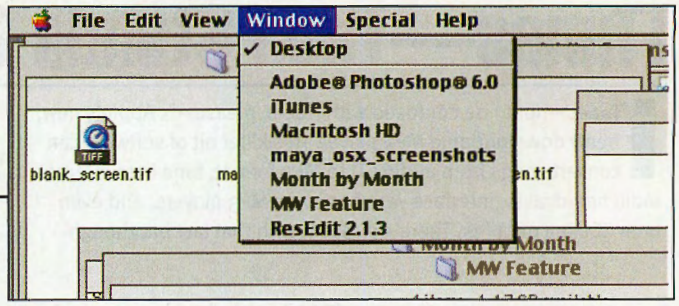
To make playing with MP3 files a breeze, iTunes comes with its own Setup Assistant to walk you through the program's configuration. Here's what it entails, in a nutshell.

STEP 1. After iTunes welcomes you, and you click the Next button, it asks for your Internet preferences. These include whether you want to use iTunes for Internet playback and whether your Mac should connect to the Internet automatically to get information about audio CDs and tune in to a streaming broadcast.

STEP 2. iTunes will ask if it should scan your hard drive for MP3 files and add them to your music library. The program won't move the files themselves—it'll just add them to iTunes. It can take a *long* time for iTunes to search your hard drive, so you might want to pack a lunch. It can also grab non-MP3 files (such as movie files) by mistake, so check over the final list very carefully.

STEP 3. There's no step 3.

Secret Upgrades: Mac OS 9.1



Mac OS 9.1 adds a new member to the happy Finder menu family.

We can't remember a time when Apple released a Mac OS upgrade with less fanfare. So little mention was made of Mac OS 9.1 during the recent Macworld Expo that we were surprised when we found it lurking on http://asu.info.apple.com, trying to avoid notice. Those who either suffer through the 70MB download or pony up the $19.95 to get an update CD will find that Mac OS 9.1 is a good overhaul of the system—short on sexy new features but long on cleanup work. The number of files that have seen tweaks from their 9.0.4 versions is huge—everything from the Finder to the fonts has received a polish.

The most immediately visible change is the addition of a Window menu to the Finder, letting you quickly choose among open Finder windows. The rest of the changes are subtler—Apple has tweaked the class drivers for USB devices, allowing equipment like USB headsets to work quite a bit better. The new OS supports the CD-RW drives built into the new G4s in a remarkably transparent way—stick in a blank CD and it will appear on your desktop. Mac OS 9.1 burns the CD when you eject it.

Unfortunately, the 9.1 installer has the bad habit of rearranging things to suit itself—it'll shuffle the Apple Extras in Internet folders to the Applications folder. Mac OS X Public Beta testers should steer well clear of 9.1—it's not compatible with the Public Beta's version of the Classic environment. Otherwise, OS 9.1 appears to be a pleasantly tame bug-wrangling release that should make Mac OS 9 a bit less finicky.

Final Approach: Mac OS X

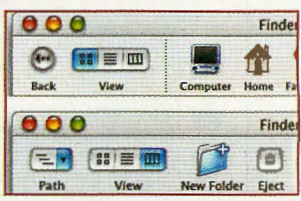
When Apple first released Mac OS X Public Beta, many long-time Mac fans were horrified. No Apple menu? No menu bar clock? Every single Finder window simply labeled "Finder"? For a company that's always prided itself on caring more about the user interface than almost any other aspect of computing, these were disturbing blemishes.

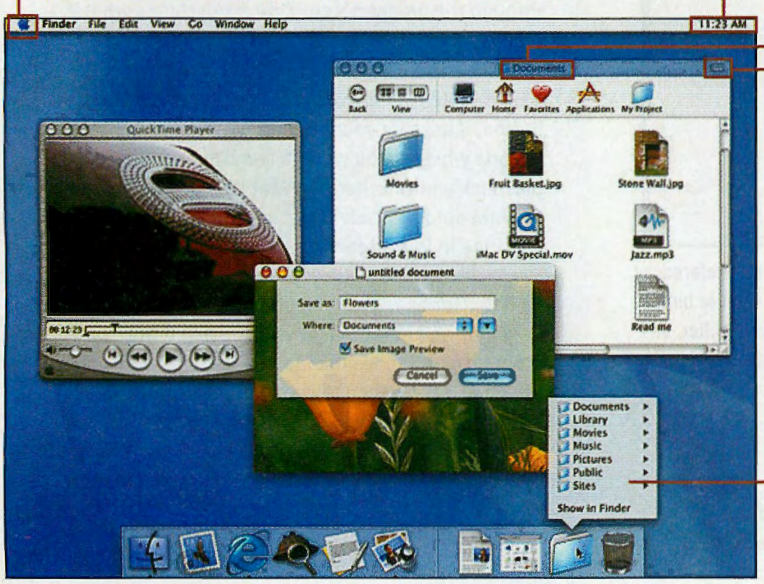
Fortunately, the garrulousness of the Mac community appears to have served us well. According to Steve Jobs, Apple got approximately 75,000 individual feedback messages during the Public Beta period—including an earful about some of the less popular interface changes. After a quick scramble, Apple has made plenty of adjustments that should make the operating system much more Mac-like when it launches on March 24. Here's a look at some of the interface elements that have changed since the Public Beta.

APPLE MENU—The apple's not just there for looks anymore; it has returned to its traditional position on the left side of the menu bar and is taking on some new tasks, including Sleep, Restart, and Shut Down, along with the usual Recent Documents and Recent Applications folders. And get this: You don't have to leave an application anymore to shut down or restart your computer—you can head over to the Apple menu straight from Photoshop.

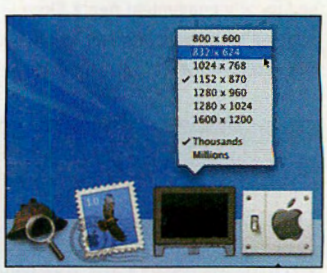
MENU BAR CLOCK—People wanted their menu bar clock back. It once again sits on the upper-right corner of the screen.

FINDER WINDOW FOLLIES—Apple has changed back the name of the application that lets you browse the file system from Desktop to Finder. Better yet, Finder windows now show the names of the folders they're displaying, instead of showing the generic label "Finder." The toolbar at the top of each Finder window is now customizable—and you can even remove it entirely by clicking the button at the top right corner of the window.





HIERARCHICAL DOCK—Stick a folder in the Dock, and you can now pop up a menu showing its contents. This makes the Dock much more like the old Apple menu.



To let the Dock behave more like the Control Strip, OS X now allows you to pop up control menus.

You think your kids are safe on the Net. Think again...

ContentBarrier. The new Parental Control solution for your Macintosh.

You don't let your kids read just anything, do you? Well, when they surf the Internet, they can see whatever they want, unless you're there to watch over their shoulders. With ContentBarrier, the Internet is a safer place for your children.

ContentBarrier sets up a protective wall around your computer. Its pre-defined categories let you choose what you don't want your children to see, and you can also create your own custom categories. Inappropriate web sites are blocked, shielding your children from things they are too young for.

ContentBarrier blocks adult web sites, sites with subjects not fit for children, and even blocks chats when predatory language is used. It blocks all offensive content coming from the Internet.

ContentBarrier works with multiple users; if you have several children, you can set different criteria, corresponding to their age or maturity. You can choose whether they have access to newsgroups, e-mail, or whether they can download files. You can set the program to let them only use the Internet at certain times, and on specific days. The program can even send you e-mail, automatically, when certain events occur.

ContentBarrier keeps a complete log of all web sites visited, whether blocked or not. This allows you to have a full record of exactly what your children are doing on the Internet. You can also take an inventory of your children's computer, and find all pictures, movies, music files and web pages.

ContentBarrier makes the Internet a safer place for your children.

Licences available 5, 10, 20+

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COMPUSA

MICRO CENTER www.microcenter.com

buyonet www.buyonet.com

Macworld

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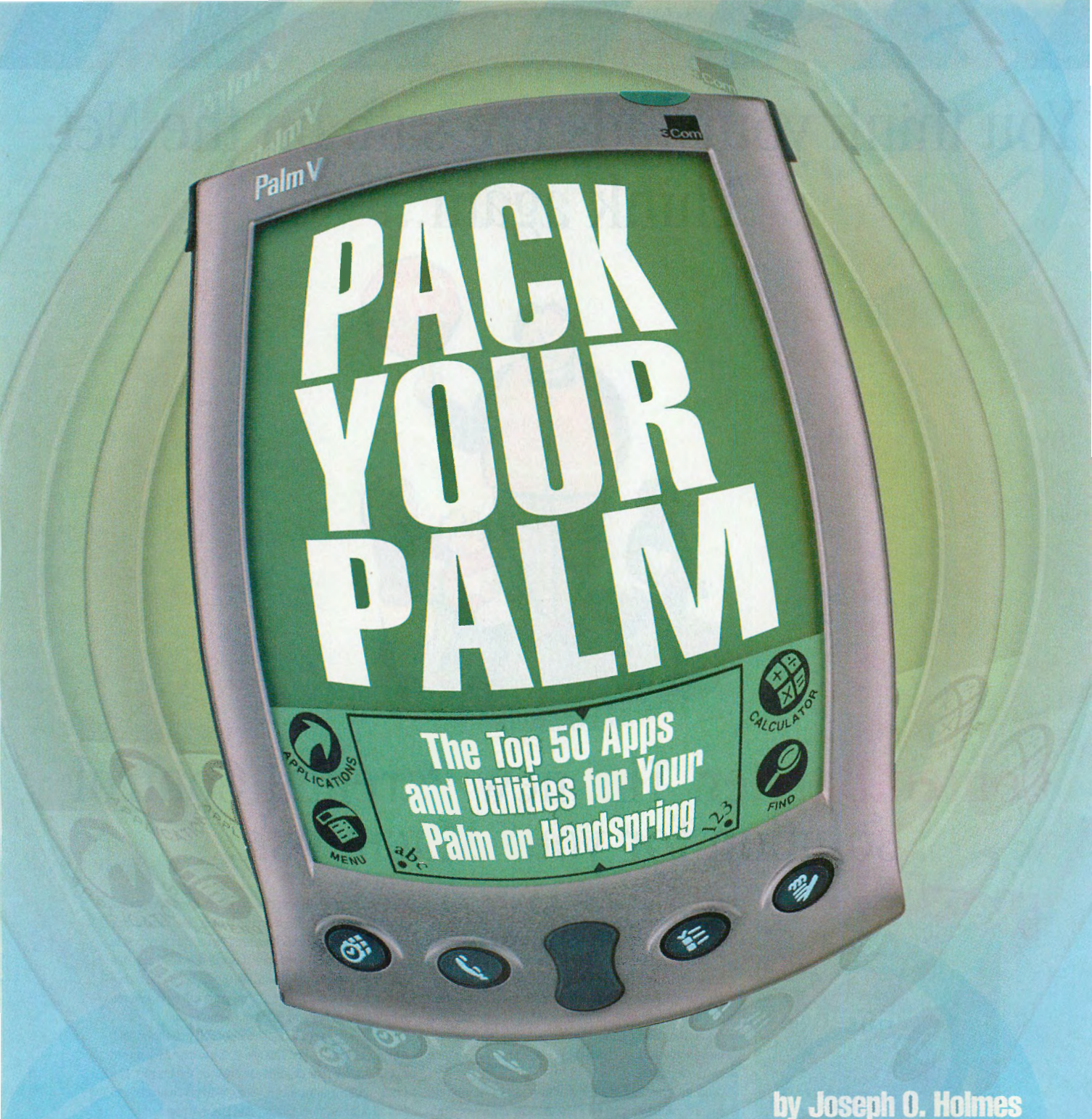


by Joseph O. Holmes

ON THE DISC

Find a demo on The Disc anywhere you see this icon.

In some ways, Palm OS software is reminiscent of the early days of the Mac. Just think back to the days when major applications like MacPaint and MacWrite were only a few K in size and software was inexpensive, innovative, and fun. One of the ways the Palms and Handsprings of today are even better than the Macs of yesteryear is that they go wherever you go—and that means most of the coolest apps specialize in keeping information at your fingertips, providing up-to-the-minute data as you walk down the street. And you'll find loads of software to get that information back into your desktop Mac—think expenses, addresses, and databases.

But the latest Palm OS software goes way beyond merely extending your desktop Mac. A handheld can actually stand in for a PowerBook. For example, you can get on a plane and travel the world with nothing but your handheld, a modem and a portable keyboard. With this setup, you can browse the Web, check and send email, follow your favorite newsgroups, read and edit documents, keep up with your finances, and play games that are just as addictive as Diablo II. Do you think you'll regret leaving your six-pound gorilla of a PowerBook at home? What do you think?

Here we've assembled 50 of the hippest, best, and most useful utilities, games, and other apps for your Palm or Handspring Visor (along with some cool though useless ones). After reading about these babies, you'll be looking at your handheld in a whole new light.

ORIGINAL PHOTOGRAPH BY AARON LAUER

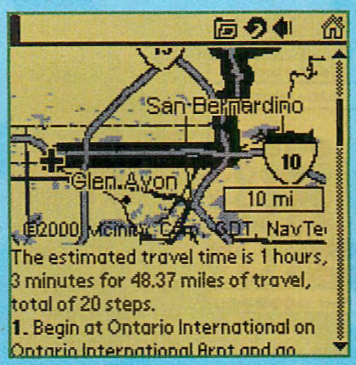
Must-Haves

AvantGo

www.avantgo.com, free

WHAT IS IT? BITE-SIZE BITS OF INFO OFF THE WEB

Some applications tap into the whole reason for owning a Palm. Every time you hot-sync, AvantGo scoops up Palm-size channels off the Web, such as full articles, maps, and news. For instance, you can check MapBlast driving directions and read full articles from Salon.com and Suck.com. Plus you can create your own channels from favorite Web pages (see "Going Custom with AvantGo," right).



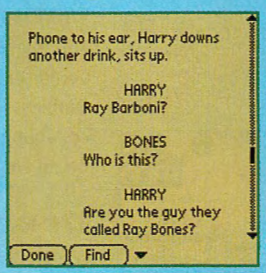
Get ready to browse MapBlast directions in your plane, train, or automobile.

Documents To Go Professional

www.dataviz.com, $49.95

WHAT IS IT? WORD AND EXCEL DOCS ON THE PALM

We do 90 percent of our work in Microsoft Word, the other 10 percent in Excel. Thank goodness for Documents To Go, which seamlessly loads the latest versions of Word and Excel documents, updated every time you hot-sync, then copies changes back to your Mac. Little-known trick: Control-click selected text in a doc on your Mac, select Take Text To Go from the pop-up menu, and your clipping appears in Documents To Go the next time you hot-sync! (The $29.95 Standard Edition lacks editing capability on the Palm.)



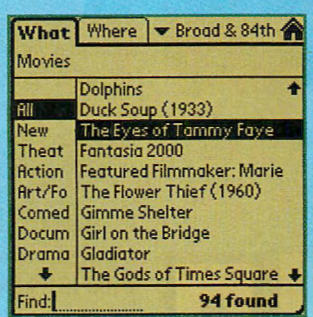
Microsoft Word docs appear perfectly formatted in Documents to Go.

Vindigo

www.vindigo.com, free

WHAT IS IT? ENTERTAINMENT LISTINGS

If you're hit with a sudden urge to see a movie in Manhattan, Atlanta, or San Francisco, whip out Vindigo, the ultimate metropolitan dating tool, to find which movies are playing where and when in 11 different cities. Après film, Vindigo guides you to local restaurants. You can even tell Vindigo your location to display the closest restaurants first, with precise walking directions. To keep the information up to date, just hot-sync while running an Internet connection.



With Vindigo, you're a couple of taps away from a dinner and a flick.

Jot

www.cic.com, $39

WHAT IS IT? GRAFFITI REPLACEMENT

When the Palm first appeared, Graffiti was a godsend, but a few years later, it's becoming a little annoying. And let's face it—you never do get really *good* at Graffiti. Enter Jot, which uses a much more natural set of strokes to enter info—you can dot your i's and cross your t's! It also lets you scribble directly on the screen rather than only in the text entry box.

Pocket Quicken

www.landware.com, $39.95

WHAT IS IT? QUICKEN FOR THE ROAD

While you're paying the check at lunch, wouldn't it be great to jot down expenses in your Palm, then have them magically appear in your Mac's copy of Quicken? (*Especially* when lunch is on the company.) Pocket Quicken does just that, moving financial records from your Palm to Quicken 2000 or 2001. It also imports custom categories and classes and protects data behind a password.

Pocket Quicken is like Quicken in your, well, pocket.

Going Custom with AvantGo

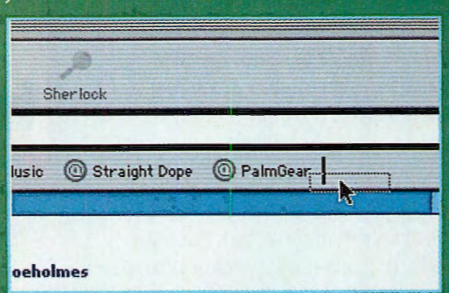
AvantGo offers just a small fraction of all the Web pages you might want on your handheld. Luckily, it's a snap to create a custom channel. Set up an AvantGo account if you don't already have one, log in, then follow these steps.

1 Search AvantGo's existing channels at www.avantgo.com/channels to make sure the Web page you want isn't already covered.

2 Head for AvantGo's AutoChannel page (https://avantgo.com/mydevice/autochannel.html).

Eventually, you'll find yourself at this well-hidden page.

3 Following the instructions, drag the AutoChannel URL to your Internet Explorer Toolbar or add the URL to your Favorites or Bookmarks menu.



In the latest browsers, the AutoChannel link will come in handiest in your toolbar.

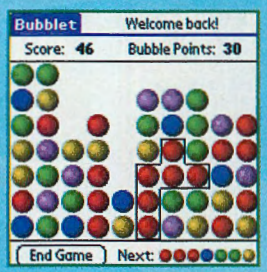
4 Now whenever you see a Web page you'd like loaded onto your Palm, just select the AvantGo button in your toolbar, Bookmarks, or Favorites and follow the directions.

Games

Traffic
http://mail.med.upenn.edu/~pcheng/traffic/traffic.html, free

NoMess
www.mapletop.com, $8

Bubblet
www.oopdreams.com/bubblet, $12



Select adjacent bubbles of like color in Bubblet.

Vexed
download via www.palmgear.com, free

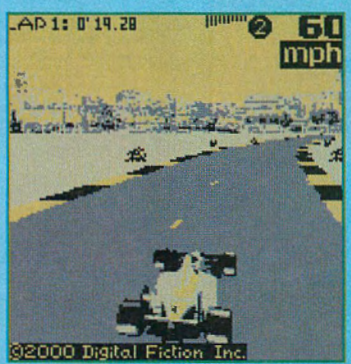
WHAT ARE THEY? PUZZLE GAMES

We're suckers for good puzzle games, and we must admit that we have serious addictions to these four. Note that some games come in a separate version for color Palms and Visors. For noncolor models, make sure to download the grayscale versions.

Race Fever
www.digital-fiction.com, $24.95

WHAT IS IT? 3D RACING GAME

Some games are fun, others look incredible—Race Fever boasts both. Smooth animation highlights this 3D racing simulation, offering a choice of manual or automatic shifting, pen or button control, 16 different tracks, and of course wild crashes. In version 1.1 or later, you can point your Palm at a friend's infrared port for head-to-head real-time racing.



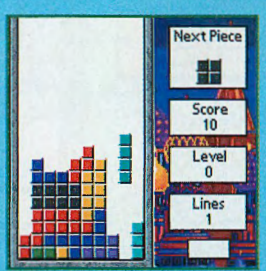
Hit the brakes in Race Fever.

Tetris
www.pocketexpress.com, $14.99

Lode Runner
www.pocketexpress.com, $14.99

WHAT ARE THEY? CLASSIC GAMES

Not every game translates well to the Palm, but some old standards are a natural fit, including Tetris and the chase-and-dig classic, Lode Runner. Both are also available bundled in the Pocket Express Entertainment Pack ($29.99), along with PocketChess, Poker Dice, Black Jack, and Solitaire.



It's only Tetris, but hey—is there a more addictive game?

Puzzles in Motion
www.puzzlesinmotion.com, $7.95

WHAT IS IT? RUBE GOLDBERG PUZZLE GAME

Some of you might remember the Incredible Machine, a game that involved creating Rube Goldberg chain reactions of falling balls and switches. Now you can experience that level of frustration—er, inspiration—on your Palm. Drag devices and objects around the screen; set off the whole shebang; and watch candles, balls, and rockets fall and slide along conveyor belts to accomplish each level's goal.

SimCity
www.ateliersoftware.com, $29.95

WHAT IS IT? THE ORIGINAL SIMCITY

Old-timers remember the original SimCity, a simpler if no less addictive simulation than the 3D behemoth of today. Now you can relive those days with the Palm version, nearly identical right down to traffic jams, citizen revolts, and natural disasters.

We predict serious traffic jams.

AncientRed
www.skenext.com, $29.95

WHAT IS IT? 3D DIABLO CLONE

You might consider Diablo an unlikely candidate for a Palm rip-off, but you'd be wrong. AncientRed does an amazing job of generating Diablo's look and feel, right down to conversations with villagers, collecting weapons and spells, and of course battles. And you can beam weapons and spells to your friends.

Dreadling
www.doomling.com, $19.98

WHAT IS IT? FIRST-PERSON SHOOTER

Putting a Diablo clone on a handheld is one thing, but a first-person shooter like Doom or Quake? Impossible! Actually, Dreadling comes darned close. Run around a variety of 3D multilevel episodes, picking up ammo and health, blasting robots and aliens. You can swap episodes with friends via beaming. All that's missing is the blood.

Somewhere down this hall, they are waiting...

Liberty
www.gambitstudios.com, $16.95

WHAT IS IT? GAMEBOY EMULATOR

It's slow—really slow—but Liberty does emulate a GameBoy incredibly well. Find GameBoy ROMs on the Web (just search on "GameBoy ROM"), convert them with the bundled Mac converter utility, and play many of your favorite GameBoy carts. (We're currently into Pokemon Gold—you can stop laughing now.) Add an accelerator like Afterburner 3.0 (see p38) and you get almost decent speed.

Zap 2000
www.astraware.com, $12.95

Galax
www.pilotfan.com, $10

Digger
http://195.128.67.93/#Digger, $8

WHAT ARE THEY? COIN ARCADE GAMES

The glory days of arcades are back! Astraware's beautiful Zap 2000 recalls arcade favorite Xevious. Meanwhile, PilotFan's addictive Galax, a Galaxian clone, looks just gorgeous in color. And we also got hooked on the DigDug clone, Digger.

Galax is a near-perfect Galaxian clone.

Productivity

Action Names Datebook

www.iambic.com, $19.95

WHAT IS IT? DATE BOOK

The Palm Date Book is perfectly okay, but Action Names Datebook is even better. It replaces the Palm interface (using your original data) and adds tons of features, including almost a dozen different ways to display calendars and to-dos. It also lets you enter events and to-do items more easily than the Palm Date Book does. And the best feature is easy *linking of contacts* with events. Get a free 30-day trial from www.iambic.com/pilot/actionnames/download.htm.

Use Action Names' pop-up menu for quick access.

AportisDoc

www.aportis.com, $30

TealDoc

www.tealpoint.com, $16.95

WHAT ARE THEY? BOOK-READING SOFTWARE

If you're in search of even more eye-straining activity than looking at your Mac all day, get a document reader for perusing books on your PDA. TealDoc displays embedded graphics and autoscrolls, while you can set AportisDoc to hide the controls and display more text onscreen. For a huge selection of free electronic books in doc format, head for MemoWare (www.memoware.com/index.html).

ThoughtManager 2.0

www.handshigh.com, $19.95

WHAT IS IT? CHECK BOX OUTLINER

The Palm Memo Pad is fine and good, but one thing we actually *miss* from our trusty (heavy) Newton MessagePad is the handy checklist, arranged in a hierarchical outline style. That's why we reassigned our Memo Pad button (go to Prefs and select Buttons from the pull-down menu on the right) to ThoughtMill, a hierarchical list manager that offers optional check boxes and drag-and-drop arranging and deleting.

It's a checklist—it's an outliner!

BugMe

www.hausofmaus.com, $19.95

WHAT IS IT? STICKY PAD

For quick reminders, the Palm's built-in to-do takes too many steps. BugMe lets you scribble a note in digital ink (forget about scrawling slowly in Graffiti), set an alarm with two clicks—and you have no more excuses to forget that anniversary dinner this year. The optional PopMe utility brings up BugMe with a single pen stroke (bundled for an additional $5).

Scribble a note, tap for the time, forget about it!

Resources for the Palm

To get answers to common Palm questions: Handango FAQ, www.handango.com (go to the Palm OS section and look up FAQs); Calvin's PGHQ FAQ, www.palmgear.com/faq

To download software: PalmGear, www.palmgear.com; Handango www.handango.com; Palm Tracker, www.palmtracker.com

To read more about the Palm: The Gadgeteer, www.the-gadgeteer.com/palmos.html; David Pogue's *PalmPilot: The Ultimate Guide* (O'Reilly, $29.95, 1999)

DateBk4

www.pimlicosoftware.com, $24.95

WHAT IS IT? DATE BOOK

Like Action Names, DateBk4 replaces the Palm's built-in date book, to-do list, and memo pad, but has oodles more customizability than the Palm Date Book. One outstanding feature: the journal entries save notes as a kind of untimed event. Proceeds support wildlife conservation, so you can get your life in order *and* save an elephant.

DateBk 4 offers tons of detail at a glance.

Brainforest Mobile Edition

www.aportis.com, $30

WHAT IS IT? OUTLINER AND PROJECT TRACKER

At first glance, Brainforest looks like a simple organizer that lets you arrange a checklist in an outline or hierarchical arrangement. Look a little closer, though, and you'll see that it's a great project tracker, with the ability to attach items to dates, room for notes, drag-and-drop arranging, and sorting. Once you start to depend on it, move up to Brainforest Professional ($39.95 or $9.95 upgrade), which adds a Mac application that you can hot-sync to your Palm.

Super Names

www.standalone.com, $19.95

WHAT IS IT? ADDRESS BOOK

Super Names provides much-needed enhancements to the Palm's Address Book, adding the ability to link contacts to calendar events and to-dos, along with faster and easier searching for individual contacts. It also offers more fields than the original, including birthdays, anniversaries, URLs, and room for three different addresses—for all of your rich, multiple-residence friends (not that you're bitter).

Super Names simultaneously displays the list of addresses plus vital details for the selected address.

JFile

www.land-j.com/jfile.html, $24.95

FMSync

www.fmsync.com, $38

WHAT ARE THEY? DATABASE APPS

Every now and then we need really quick access to our FileMaker Pro Beer Tasting database. JFile makes a fine database for a handheld, but to bring your FileMaker databases (version 3.0 and later) into your PDA, you need FMSync. Best of all, you can make changes on your handheld and hot-sync them back to your original FileMaker database.

Utilities

Fitaly

www.fitaly.com/palm/palmfitaly.htm, $25

WHAT IS IT? ONSCREEN KEYBOARD

If you'd rather tap a keyboard than scribble letters, consider Fitaly, a tiny onscreen keyboard with keys specially arranged to minimize pen movement. Fitaly experts claim to crank out a whopping 60 to 70 words per minute!

Dan Wee's Afterburner

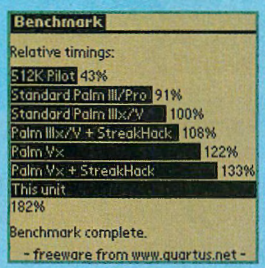
download via www.palmgear.com, $8

Tornado V

www.iscomplete.com, $10

WHAT ARE THEY? ACCELERATORS

If Danger is your middle name (ours is Coward), test an overclocking utility, which can boost your Palm's speed by more than 200 percent (less for older Palms). Tornado V is easy to use, but for a geekier and more customizable interface, check out Dan Wee's Afterburner. Either way, use BenchMark (www.quartus.net, free) to eyeball the numbers.



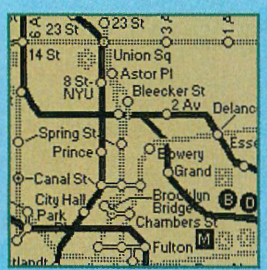
We've actually run our Palm V at up to 182 percent via Afterburner!

FireViewer

www.firepad.com, free

WHAT IS IT? IMAGE-VIEWING APPLICATION

You don't need a photo of your fiancé on your Palm (that'd be a little sad), but a map of the New York subway would be useful. FireViewer is an image viewer with support for color, grayscale, and large, scrolling images. Simply convert images to the PDB graphics format using Lemke Software's GraphicConverter (www.lemkesoft.com) and stick 'em on your handheld.



Let's see—how can I get uptown from Bleecker Street?

Clipper

www.standalone.com, $12

WHAT IS IT? CLIPBOARD

The Palm's limited clipboard cries out for a utility that lets you store multiple items. Clipper pops open whenever you tap a secret spot in the Graffiti area, letting you copy or paste special info like date, time, or saved clippings. It even pastes into spots where the Palm's built-in paste doesn't work (for example, the entry boxes for application registration numbers).

HackMaster

www.daggerware.com, $5

WHAT IS IT? "EXTENSIONS" MANAGER FOR THE PALM

The Palm doesn't officially use system extensions, but HackMaster sneaks in the Palm equivalent through various hacks. Install Hackmaster plus one or more favorite hacks—we use them to launch apps with Graffiti strokes (Phlegm Hack, freeware), rotate the screen (FlipHack, freeware), and drag and drop text (DragAndDrop, $10). Download hacks from PalmGear at www.palmgear.com. Note: Some HackMaster hacks can cause conflicts.

TealTools

www.tealpoint.com, $19.95

TealLaunch

www.tealpoint.com, $11.95

WHAT ARE THEY? DESK ACCESSORIES

TealTools includes six desk accessories to open on top of any application. The TealEdit module, for example, can sort, number or bullet, and change the case of selected text. The toolbox also includes a clock, calculator, quick-access preferences, and more. To make opening the tools easier, use TealLaunch (HackMaster is required), an application launcher that uses Palm button combinations.

TealEdit lets you manipulate text in new ways.

TapPad

http://tappad.com, $19.95

WHAT IS IT? GRAFFITI AND JOT ENHANCER

TapPad makes Graffiti and Jot a lot friendlier. Install a small HackMaster hack, then stick a plastic overlay on top of the Graffiti-scribbling area of your Palm. Suddenly you can type numbers as you would on a calculator, as well as cut, copy, paste, and undo. TapPad stores the last ten copied items for easy pasting, along with often-used words or phrases. All the while, your Jot or Graffiti function works normally. (Hackmaster is required.)

With TapPad, you can enter numbers at record speeds—and do a whole lot more.

HotTime

www.aladdinsys.com/hottime/index.html, $9.95

WHAT IS IT? CLOCK SYNCHRONIZER

HotTime does only one thing, but does it well: Every time you hot-sync your Palm, HotTime sets the Palm's clock to match your Mac's. If you use the Network Time Server in your Mac's Date And Time control panel, your Mac's and Palm's time will be like ebony and ivory—living together in perfect harmony. (HackMaster is required.)

What Fits in Your Palm?

While many Palm and Handspring models ship with 8MB of memory, old and entry-level handhelds like the Palm V or the m100 come with only 2MB. That's enough to hold thousands of events and addresses and a few applications, but heavy-duty users can fill 2MB in no time—for instance, AvantGo uses 900K and Vindigo New York takes up 535K! (To check your memory usage, go to the main menu and press the drop-down menu button. Select Info.) Rather than shell out hundreds of bucks for a new, bigger-brained handheld, you can simply upgrade some Palm models. TRG Engineering (www.trgnet.com) offers upgrades to 8MB (3MB for earlier Palms), and the price ranges from $100 to $150. Note, though, that upgrading the Palm V is so tricky you have to mail yours in and let the pros do it (www.palmchips.com or www.palmworkshop.com).

As the saying goes, you can never have too much RAM.

Travel

TravelTracker

www.silverware.com, $29.95

WHAT IS IT? TRIP INFORMATION TRACKER

If you're the type who stresses over travel details, invest in TravelTracker, which keeps such information as flights, hotel reservations, conferences, parties, and meetings. The program not only displays info in a single, clear screen, but also enters it all into your Palm date book and contacts.

We swear we won't miss our flight this time.

BackupPro

www.trgnet.com, $9.95

WHAT IS IT? BACKUP PROGRAM

Imagine this: You're 3,000 miles from a backup and your Palm batteries get knocked loose for an hour, causing you to lose your contacts and calendar—horrors! Not if you've been backing up onto the nonvolatile flash memory built in to every Palm using BackupPro. New batteries and a few taps later, your critical data is back in service. (Note—this won't work with Handspring Visors, which don't use flash memory.)

Métro

http://home.worldnet.fr/~patriceb/Technique/Metro/Metro-en.html, free

WHAT IS IT? INTERACTIVE SUBWAY GUIDE

Even a city's natives often find the subways overwhelming, and if you're from out of town? Fuhgettaboudit! Pack Métro and look like a subway pro. Install your favorite cities from among more than 150 worldwide, select starting and ending stations, and the application spells out all the details of your ride. It even estimates the travel time.

MultiMail Pro

www.actualsoft.com, $39.95

WHAT IS IT? SOPHISTICATED EMAIL CLIENT

If your right shoulder is slowly sinking closer to the ground from traveling with that gargantuan PowerBook, check your email with a Palm modem and MultiMail Pro. It offers all the versatility of a real email client, including signatures, filtering, multiple accounts, and attachment decoding. (MultiMail Conduit, $29.95, synchronizes Palm email with Outlook Express, Claris Emailer, or Eudora.)

EudoraWeb

www.eudora.com/internetsuite, free

WHAT IS IT? WEB BROWSER

EudoraWeb allows you to surf the Net and smoothly handles such annoyances as frames and graphics—by ignoring them. The companion email application—free with limited features—launches EudoraWeb when you click a hyperlink.

Zagat Restaurant Guide

www.landware.com, $29.95

WHAT IS IT? RESTAURANT FINDER

The Palm version of this book includes the entire text of all Zagat reviews from 11 locales around the world, including Macworld Expo host cities San Francisco and New York (so you can stop eating those $15 convention center sandwiches). Updates to new yearly editions cost only a few bucks. Best of all, you can do custom searches—say, looking for Brooklyn Mexican restaurants with high food ratings that deliver. Yum!

Where's the chalupa?

Cool But Oh So Useless

Mirror

www.utilware.com/mirror.html, free

WHAT IS IT? A MIRROR AND LIPSTICK FIXER ON YOUR PALM

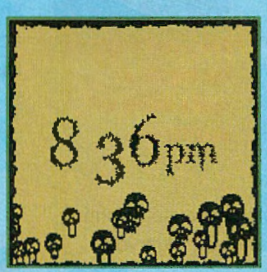
You use your handheld for just about everything—so why not use it to touch up your lipstick or find that poppy seed between your teeth? Of all the original uses for a handheld device, Mirror really takes the cake, turning all of the screen's pixels black to create, as the name suggests, a passable mirror. If you're a particularly sneaky type, you can even use Mirror to spy over a shoulder.

Hell Clock

http://minordemons.com/hellclock/index.html, free

WHAT IS IT? TERRIFYING TIMEPIECE

To be honest, Hell Clock isn't *totally* useless. It does tell the time, though the numbers are usually obscured by flashes of lightning and writhing death masks that waft up the screen like the lost souls of Windows CE programmers.



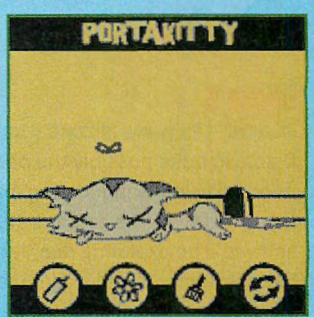
Nightmare on Handspring?

PortaPets

www.eruptor.com/portapets, $4.99 each, some are free

WHAT IS IT? TAMAGOTCHIS FROM HELL

Your love-hate relationship with Tamagotchis just got weirder. PortaFish, PortaKitty, and PortaMonkey are rated PG-13 for a reason—these twisted digital pets have bodily functions almost as explicit as those of the orangutans that embarrassed your grandmother last year at the zoo.



PortaKitty's needier than a real cat.

Backdrop

www.twilightedge.com, $18

WHAT IS IT? DESKTOP PICTURES

As you might guess from its name, Backdrop displays a wide choice of grayscale or color pictures behind almost any application (our favorite is the Mona Lisa). The application will optionally invert the screen, invert the backlit screen, and let you pick backdrop-free applications when you prefer legibility to glamour.

Joseph O. Holmes had 8MB of RAM installed in his Palm V by a physics grad student in Utah. Sadly, his Palm memory gets filled up anyway.

Forget Quake. Here are 20 games anyone can enjoy.

20 Games for Nongamers

by John Lee
illustration by Mineko

OK, so you've been admiring the way your colleagues finesse their way around those dark, dungeonlike levels of Unreal Tournament and you think you want to compete—that is, until you find yourself strafing into walls, shooting at ceilings, and getting pummeled into a bloody heap within 20 seconds. You think about practicing, or, worse yet, reading the manual, but those options are about as appealing as eating Spam gristle.

You are not alone. While many of the new games are gorgeous, it sometimes seems as if they take five hands and/or two brains just to play. Action games like Unreal Tournament and Quake require huge amounts of coordination, strategy games take detailed micromanagement, and adventure games are loaded with puzzles that would stump Einstein.

Well, we're here to tell you about the games hard-core gamers don't talk about: the hundreds of freeware, shareware, and commercial games that are simple, intuitive, and just freaking easier. So here's to all of you who can't walk, chew gum, and shoot from the hip at the same time: 20 fun games (and a bunch of similar titles) for the nongamer. Now get ready to kick some Scrabble butt.

Diablo II

Blizzard, $45 (www.blizzard.com)

Diablo II, quite possibly the best game of 2000, may look intimidating, but it's easier than you think. The controls are reasonable, and you'll be exploring deadly territory and hacking zombies and skeletons in no time. Major monsters get stronger as you progress, but so does your hero, and you'll soon develop favorite techniques for dispatching them.

SIMILAR GAMES: Diablo—$10, www.blizzard.com; Baldur's Gate—$50, www.graphsim.com

Hey, good lookin'—what's your name?

Maelstrom

$15, Ambrosia (www.ambrosiasw.com)

Keep your finger on the trigger, or space debris will splatter you.

Like a fine wine, this space-blaster game just gets better with age. The object is to fly through space, blasting through careening asteroids and alien ships. You'll need nimble fingers and a hair-trigger response because incoming debris is unpredictable and can blow you to smithereens.

SIMILAR GAMES: Asterax—$10, www.download.com; HemiRoids—free, www.macdownload.com; Asteroids—$30, www.wizworks.com

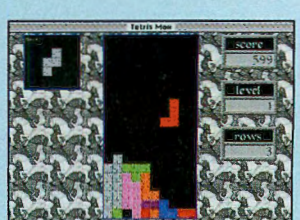
Tetris Max

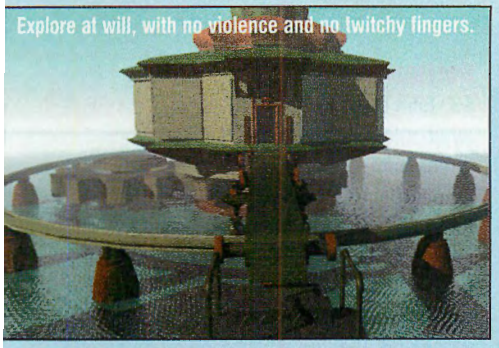
$10, Opinicus Microtechnologies (www.download.com)

Back when some of us considered Russia—not Microsoft—the evil empire, a simple little game called Tetris crossed the Iron Curtain and started a new addiction. In Tetris, geometric shapes drop from the top of the screen. Your job is to manipulate the shapes as they fall to form complete rows across the bottom. Succeed, and they vanish. Fail, and they pile up.

SIMILAR GAMES: Multris—$12, www.monkeybyte.com; Tetris Plus—free, www.macshare.com; SimpleTetris—free, http://kentaro.com

Play too much and these shapes may end up in your dreams.





Myst: Masterpiece Edition

$40, Red Orb (www.redorb.com)

You may hear some hard-core gamers (especially those who insist on huge doses of blood and gore) belittling games like Myst, but just ignore them. The game is a classic, extremely popular (more than 5 million sold so far), gorgeous, and fun to play. So there.

SIMILAR GAMES: Riven—$30 to $50, www.redorb.com; Traitor's Gate—$20, www.dreamcatchergames.com; Nightfall—$20, www.altorsys.com

Shanghai: Dynasty

$20, Activision (www.activision.com)

Shanghai is an addictive little matching game based on randomized Mah-Jongg tiles. You click on matching tiles (those with exposed sides) to make them disappear, and the object is to clear the board. Asian music and cool animations flash when tiles vanish for dramatic effect.

SIMILAR GAMES: GunShy—free, www.macdownload.com; Shanghai: Second Dynasty—$30, www.activision.com; Henge—$15, www.magicastle.com

Match similar tiles and see wild animations as the tiles disappear.

PacMac Deluxe

$15, DappSoft (www.happypuppy.com)

Better eat fast.

The original PacMan and his classic sister, Ms. PacMan, have driven gamers woozy for years. In this simple Mac variation, the object is to race through a maze, gobbling colored pills before a marauding team of ghosts can catch you.

SIMILAR GAMES: Blobbo Lite—$20, www.macdownload.com; Pac the Man—free, www.mcsebi.de

The Sims

$50, Aspyr (www.aspyr.com)

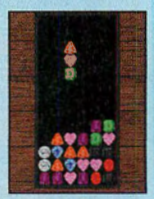
These are the days of our Sims' lives.

In The Sims, you take charge of a neighborhood and set guidelines for the people who live in it. Depending on the character traits you give your Sims and how you treat them, they may thrive, turn into neighborhood flirts, or become deadbeats. They may also wet themselves or starve to death should you neglect them (which admittedly can be amusing).

SIMILAR GAMES: The Sims Livin' Large—$30, www.aspyr.com; Civilization II Gold Edition—$20, www.wizworks.com; Majesty—$40, www.macplay.com

Jewelbox

$10, Hot Rod Games (www.kidsdomain.com)



Lucy in the sky with diamonds... and amethysts, and emeralds...

Inspired by Tetris, Jewelbox is a fun little game where trios of sparkling gems drop from the top of the screen. The object is to line up similar jewels in matching sets of three (either vertically, horizontally, or diagonally), making them disappear.

SIMILAR GAMES: Floor Tiles—$12, www.ironsoftware.com; Mac Tiles—$20, www.barefootinc.com; Deco—$10, www.monkeybyte.com

Eric's Ultimate Solitaire

$35, Delta Tao (www.deltatao.com)

Eric has given us one of the slickest Solitaire games.

There are literally hundreds of versions of Solitaire available for the Mac, but it would be hard to beat this nifty Delta Tao offering (which for a while came preinstalled on all new Macs). You get 23 different games of Solitaire in this baby—betcha didn't even know there *were* that many.

SIMILAR GAMES: Solitaire Till Dawn—$20, www.macshare.com; Deluxe Klondike—$15, www.macupdate.com; Monte Carlo Solitaire—$5, www.macinsearch.com

Hoyle Card Games

$30, Sierra (www.sierra.com)

For some old-fashioned, classic card games, shuffle the deck and try this Sierra collection. You can deal 16 games, including go fish and old maid for kids, and poker and bridge for adults. Opt for computer opponents with names and animated faces, or play against friends or on the Internet.

SIMILAR GAMES: Hoyle Casino—$30, www.sierra.com; Classic Gin Rummy—$15, www.freeverse.com

Apeiron

$15, Ambrosia (www.ambrosiasw.com)

Based on the classic Centipede game, Apeiron has you control a movable weapon at the bottom of the screen. Your goal is to kill a pesky, crawling, segmented worm creature before it makes its way down through randomly placed clutter.

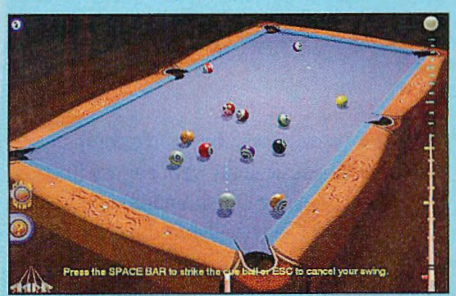
SIMILAR GAMES: Firefall—$10, www.pangeasoft.net/firefall; Chiral ($15) and Barrack ($15)—www.ambrosiasw.com

Maximum Pool

$30, Sierra (www.sierra.com)

For family pool sharks and others who prefer their sports indoors, Maximum Pool offers a surprisingly good game, with intuitive controls and sound physics. Chalk up your cue and take a crack at basic pocket billiards, snooker, eight ball, nine ball, and eight other games. You even get a few wild tables with unpredictable cushions (like round and triangular ones).

SIMILAR GAMES: Ultimate Pool—$20, www.qnote.com; 8-ball Emulator—$16, www.macdownload.com



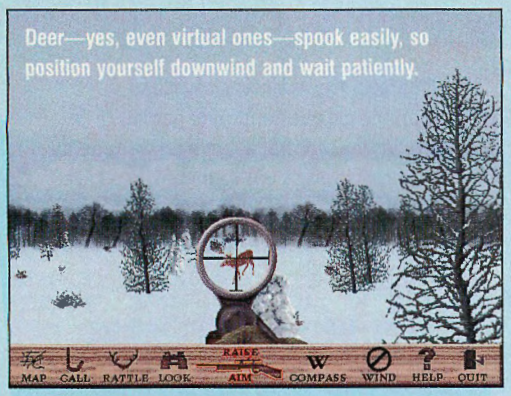
It's got everything except cue chalk and sharks.

Star Wars: Episode I, Racer

$20, LucasArts (www.lucasarts.com)

Flying and racing simulations are not for the timid, and they often call for peripherals—a joystick or a steering wheel. But you can still get an adrenaline rush from this nifty Star Wars classic. As Anakin Skywalker (or any of 20 other racers), you'll skim the planet's surface in a turbine-driven pod racer. As in any driving game, you survive crashes, even when you're careening into cliffs at 600 miles per hour.

SIMILAR GAMES: Driver—$30, www.wizworks.com; Burning Rubber—$10, www.macdownload.com



Deer Hunter

$15, MacSoft (www.wizworks.com)

Hard-core gamers usually turn their noses up at interactive hunting games, but from its introduction this easy, low-cost sleeper proved so popular that it spawned a revolution among game publishers. Deer Hunter puts you in four scenic locations and arms you with a rifle, shotgun, or bow and arrow. There are even spoofs of these games (see Deer Avenger 2, below).

SIMILAR GAMES: Rocky Mountain Trophy Hunter—$10 (www.wizworks.com); Deer Avenger 2—$10 (www.simonandschuster.com)

Shockwave Delirium

Free, Shockwave (www.shockwave.com)

Delirium is a classic shareware game with spaceships rescuing little humanoid figures; this version, however, will introduce you to the Shockwave site, an online stop for playing free games. Once you've downloaded or upgraded the Shockwave plug-in, just take control of a Delirium cannon and fight off robots, tanks, and attackers from all sides.

Controlling the revolving cannon calls for steady nerves.

SIMILAR GAMES: Delirium—$15, www.eskimo.com/~iceman; MacAttack—$15, www.kagi.com/newreality; Arashi—free, www.macshare.com

Swoop

$15, Ambrosia (www.ambrosiasw.com)

Watch out for these aliens. They break rank, swoop down, and try to destroy you.

Swoop has its roots in arcade classic Galaxian, a game that gobbled quarters as fast as the U.S. mint could make them. You control a side-scrolling cannon at the bottom of the screen, and your duty is to eliminate waves of alien bugs and spaceships as they fly back and forth, dropping bombs and suicide-diving toward you.

SIMILAR GAMES: SpaceInvader ($20), Bedlam ($15), and Slime Invaders (free)—www.macdownload.com

Scrabble

$30, MacSoft (www.wizworks.com)

Start studying that dictionary, because this is a great digital rendition of the vocabulary fiend's favorite board game. Classy 3D graphics handsomely reproduce the board and play, and the tiles move easily, with appropriate sound effects. Match wits with the computer, with up to four humans, or with other players via the Internet.

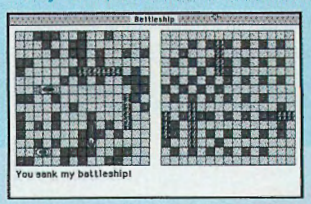
SIMILAR GAMES: Monopoly ($30) and Risk II ($30)—www.wizworks.com; Hoyle Board Games—$30 (www.sierra.com)

Battleship

$5, John Lindahl (www.micro.caltech.edu/Grads/jafl/about.progs.html)

Remember those popular naval battles we fought on paper as kids? You set up two grid sheets and hide a fleet of ships, then take turns calling out grid numbers in an effort to destroy your opponents' ships. Well, this game of Battleship ain't no looker, but it *is* black-and-white nostalgia with grids, ships, and salvo sounds. For a snazzy color rendition, try Battling Ships on Hoyle Board Games ($30, www.sierra.com).

SIMILAR GAMES: Manic Minefields—$7, www.norbyte.com; Sea Strike—free, www.shockwave.com



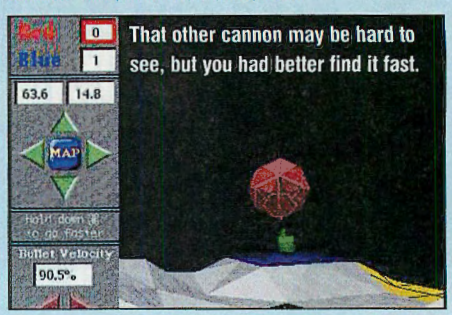
Loose lips may not sink ships, but salvos will.

3D Cannon

$10, Bill Corbett (www.macdownload.com)

If guns and warfare are your thing, here's a little cutie based on the old game of Artillery. You and your opponent control randomly placed cannons on opposite sides of a mountainous grid. You point your cannon and gauge firepower velocity for turn-based shots. The first to blow the enemy to bits wins. The game screen is small, but hey, that just makes it easier to play at work.

SIMILAR GAMES: Dome Wars—$10, www.csua.berkeley.edu/~nathanst; Tank Wars—$5, www.download.com; Battalion—free, www.macdownload.com



It's Pacific Coast—but you knew that already, didn't you?

Wheel of Fortune

$30, MacSoft (www.wizworks.com)

How many times have you watched some TV game show and said to yourself, "I could do better than these idiots." Well, here's your chance to prove it. Wheel of Fortune comes with Vanna White doing double duty as host *and* letter-turner (she's quite multitalented), and it gives you all the familiar trappings—spinning wheel, clever TV sound effects, and special fantasy prizes. Everything is here but the pressure and the prospect of actually winning some money.

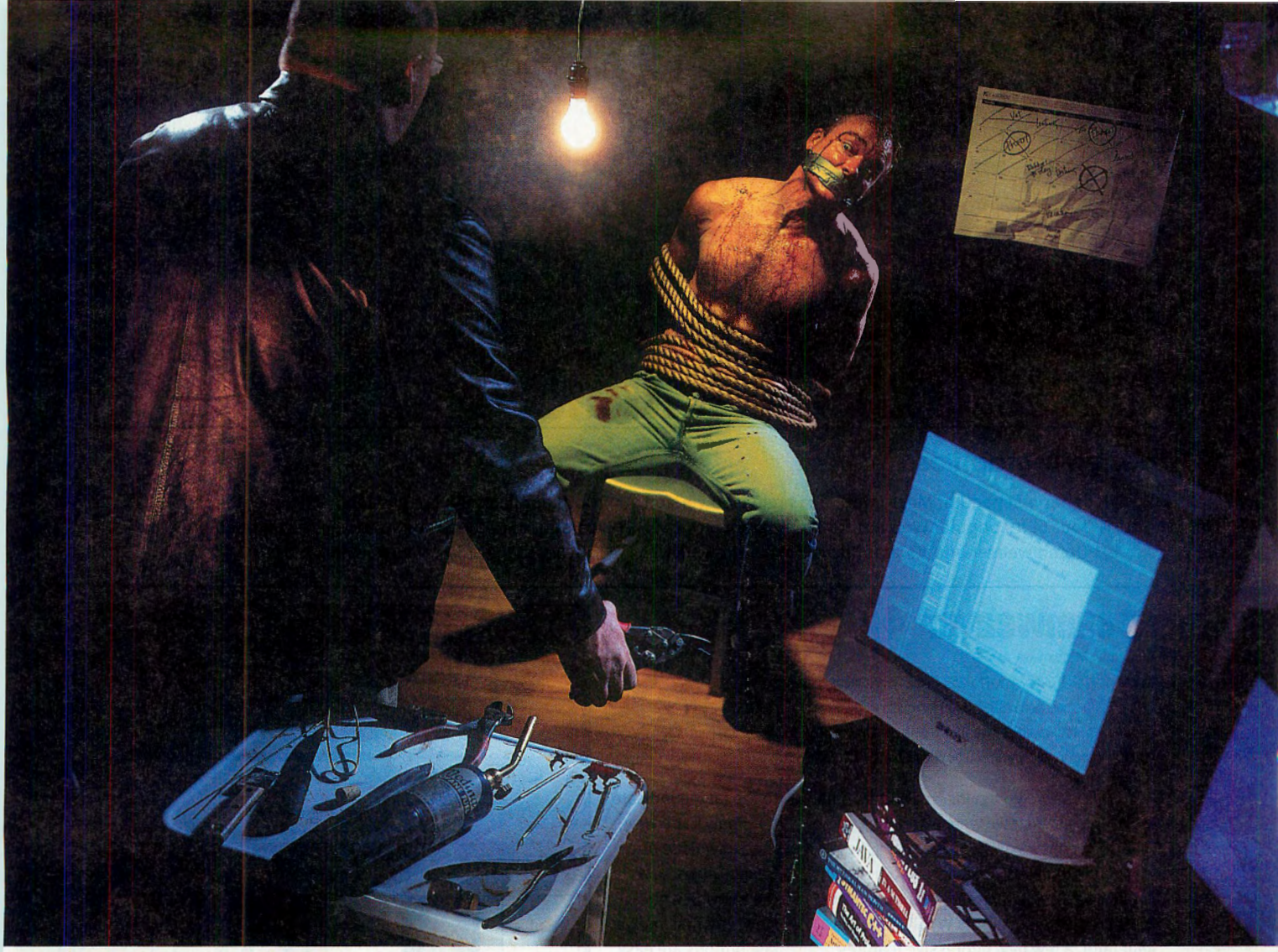
SIMILAR GAMES: Jeopardy—$30, www.wizworks.com; Who Wants to Be a Millionaire Second Edition—$20, www.disneyinteractive.com

Trolling for Games

Here are some of the best sites for locating freeware and shareware games:

www.macgamefiles.com
www.macshare.com
www.macupdate.com
www.macdownload.com
www.download.com
www.macinsearch.com
www.happypuppy.com
www.kidsdomain.com

John Lee is a former university professor who managed to drive other faculty members crazy by playing Super Tetris in his office with the music turned up.



Programming Doesn't Have To Be This Difficult. It's REALbasic!

NEW Version! REALbasic 2.1* FREE Update!

REALbasic is the award-winning, visual, object-oriented BASIC development environment for the Macintosh.

REALbasic is powerful and easy to use. You can build anything from prototypes to complete professional quality applications for both Mac OS and Windows. Whether you are a hobbyist, a professional programmer, or someone who needs to build a program for a specific task quickly and easily, REALbasic is the tool for you!

Simply drag and drop user interface elements into your application's windows and dialog boxes to create anything from a small utility to a large application or the next great game—faster and easier than ever before. Experiment, explore, learn, and innovate as you build your applications step by step while REALbasic handles all the details for you so you can concentrate on what makes your software great—your ideas! With the Professional Edition you can even access most databases and create applications that run on Windows.

Go to www.realbasic.com NOW to download a FREE trial version or call 512.263.1233.

REALbasic®

MacPower 2000 Products of The Year

MacHome

Macworld

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Mac Fan MVP '99 MOST VALUABLE PRODUCT

MacAddict RATED

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Dreamweaver 4 Fireworks 4 Studio

design & graphics

FREAKIN' AWESOME! The most valuable products, the coolest gizmos.

SPIFFY A solid offering. Overall a good investment.

YEAH, WHATEVER Neither recommended nor rejected. Some might like this, but we weren't impressed.

BLECH! Give us back the time we spent testing this.

Right on schedule, Macromedia has released version four of its popular Web authoring program Dreamweaver and its graphics sidekick Fireworks. Both applications are available as standalone products, or combined in the Studio package. If you need both apps, buying the Studio saves you about $150.

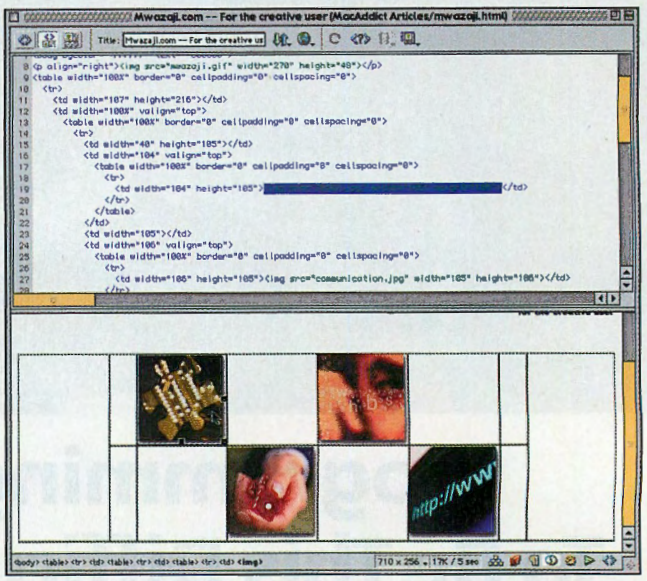
Dreamweaver 4

Company: Macromedia
Contact: 800-457-1774 or 415-252-2000, www.macromedia.com
Price: $299 stand-alone (SRP), $449 for Studio (SRP)
Requirements: PowerPC, Mac OS 8.6 or later, 32MB of RAM, 135MB of free hard disk space, 256-color display with 800 by 600 resolution, CD-ROM

Here we go again. Around this time last year we were all reading reviews of Dreamweaver 3. So what have the good folks at Macromedia cooked up after just a year? In Dreamweaver 4, Macromedia unveils its WYSIWYG HTML generator, a few new impressive features (such as the O'Reilly reference and the Code and Design view), and a few less exciting ones (such as the Insert Flash Text and Flash Button options).

In the past, a serious indictment of Dreamweaver (and of Macromedia products in general) has been the clunky application interface. Adobe's GoLive traditionally has mopped the floor with Dreamweaver in this one area. Version 3 began the process of cleaning up the interface with dockable tabs, and Dreamweaver 4 continues the job. Perhaps the most impressive advance is a new toolbar, which resides at the top of the window. It makes some standard Dreamweaver features—such as the title info, site management, and browser preview options—much more accessible than using the main application toolbar.

The menu bar also contains some exciting brand-new stuff. The three icons to the far left indicate the Show Code view, the Show Code And Design views, and the Show Design view. The first and last buttons are easy enough to understand—they toggle the user between the source code and WYSIWYG versions of a Web page. The middle button does a clever little trick, creating a split screen with source code on top and WYSIWYG on the bottom. We've always wanted a system like this—it will make debugging muddled code much easier.

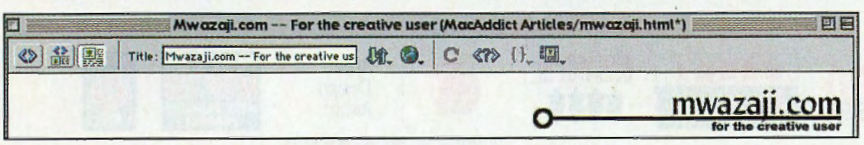


The Show Code And Design view allows users to stack code on top of the WYSIWYG workspace, facilitating debugging efforts.

The real superstar of the new menu bar is the Reference icon, the third one in from the far right. Using this icon, you can highlight any feature on your Web page (in either Design or Code view) and get a definition of the tags from the Mac daddy of the coding world, O'Reilly Publishing. This is a *huge* addition, and makes Dreamweaver 4 a worthy buy for even the most hard-nosed hard-code enthusiast.

Also new to this version of the program is the ability to insert prebuilt Flash buttons or create Flash-based text buttons right in Dreamweaver without having to learn (or even open) the sister program (see "Weaving Flashy Dreams," p45). While this addition may sound exciting to Flash-crazed developers, the attraction is specious at best. The buttons are based on preset templates, so you can't easily create any cool visual effects of your own. The program offers very limited control over the look and feel of Flash buttons and text effects, which many users will find frustrating.

Those using Dreamweaver to build a complete site-development and



The new menu bar centralizes several important Dreamweaver functions.

maintenance solution should take note of several new features, including the Asset Panel, which allows users to view all of a site's media; the Site Reporting feature, which makes it possible to edit and fix common HTML problems; and the Configurable Site Management window, which allows teams to simulate a content management system environment.

Dreamweaver 4 has improved the Layout/View Another feature—you can now turn it on and off directly from the Common Objects palette. This makes it possible to draw tables without having to draw layers first. While we found managing the size of table cells somewhat difficult, this feature produced solid code that worked well across browsers and platforms. Perhaps the most exciting addition, however, is the ability to add a spacer GIF directly from this drawing tool, which allows designers to handle finicky Netscape browser restrictions without having to toggle out of Dreamweaver and into Photoshop or Fireworks. Unfortunately, once you've generated your tables, you'll still have trouble if you decide to change the size of table cells. When we stretched table cells wide and then tried to pull them back, the program (as before) refused to comply. We tried changing cell size using both the WYSIWYG method and the Clear Column Widths option, but to no avail.

One major concern we've always had with the Dreamweaver product is the funky JavaScript it uses for relatively simple tasks like rollovers. For example, to create a simple image rollover, Dreamweaver wrote 26 lines of code. Perhaps this thick code has some hidden logic, but it has always seemed gratuitous to us.

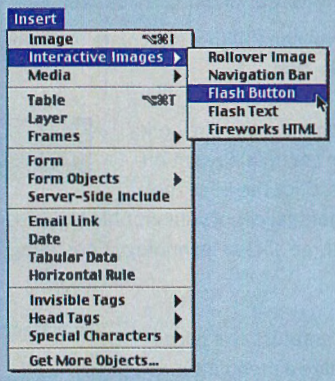
In the end, this version of Dreamweaver really doesn't offer a whole lot more than the last one did. In fact, the upgrade amounts to a few additional plug-ins rather than a whole new version of the product. That said, Dreamweaver is still the best WYSIWYG HTML editor on the market. If you haven't got a copy and you don't like writing your own code, get it. But if you've already got Dreamweaver 3 and you can do without the O'Reilly reference feature, save your money and hope for something a little more exciting in the next release.—*Jude Higdon*

good news: Show Code and Design views, O'Reilly reference guide. **bad news:** Tables still don't resize well. Not much of an upgrade.

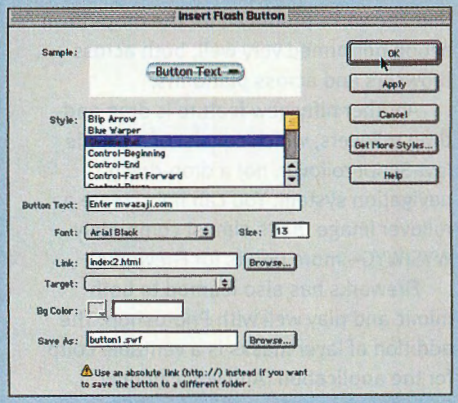
Weaving Flashy Dreams

Dreamweaver 4 allows users to add Flash buttons to Web pages right from the Dreamweaver interface.

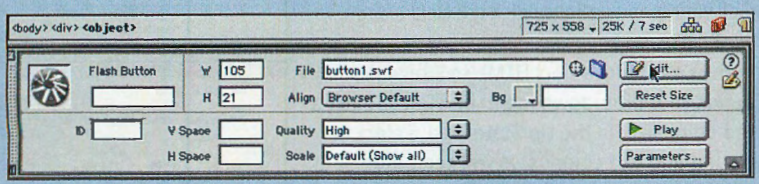
1 Choose Flash Button from the Interactive Images submenu in the Insert menu, bringing up the Insert Flash Button dialog box.



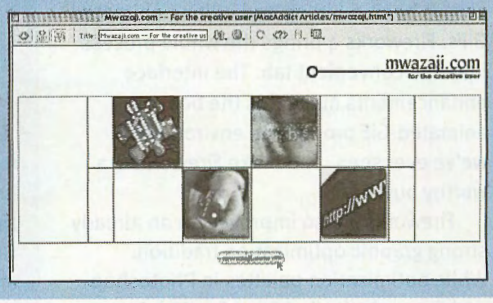
2 Select a button style from the Style selection box. Add the desired text for your button in the Button Text field (we wrote "Enter mwazaji.com"). Select a font and point size. Add link information if relevant, then click OK. Your Flash button appears on the page.



3 Click the graphic once to reveal its properties in the Properties Inspector (if you don't see the Inspector, select Properties from the Windows menu). If your text overflows the button, click the Edit button to the far right of the Properties Inspector and shorten your text so it fits better (we changed ours to "mwazaji.com").



4 Click your Flash button once to make sure it's selected. Click the Play button in the bottom–right corner of the Properties Inspector. Roll your mouse over the button to see your effect.



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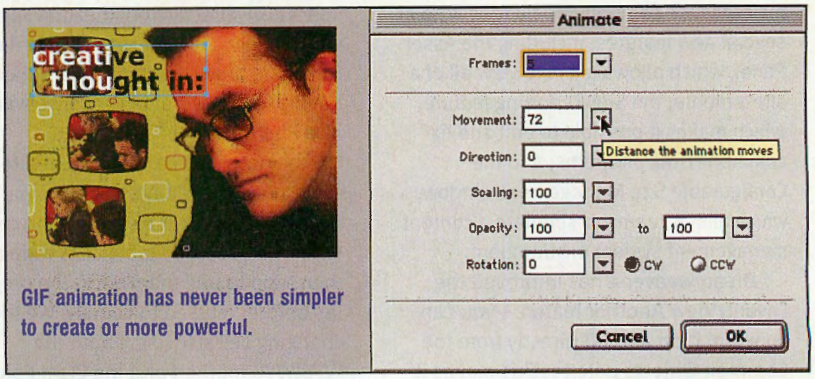
Fireworks 4

Company: Macromedia
Contact: 800-457-1774 or 415-252-2000, www.macromedia.com
Price: $299 stand-alone (SRP), $449 for Studio (SRP)
Requirements: PowerPC (G3 or faster recommended), Mac OS 8.6 or later, 64MB of RAM, 100MB of free hard disk space, color display, CD-ROM, Adobe Type Manager 4 for using Type 1 fonts



GIF animation has never been simpler to create or more powerful.

With HTML editors writing JavaScript and drawing apps becoming easier to use, Macromedia's Fireworks has struggled to find its niche. Version 4 marks the coming-out party of this Web graphics program. It boasts new features—such as a stellar animated GIF interface and rollover drop-down menus—that promise to impress.

Our favorite new feature is the ability to create a rollover menu with a drop-down list, which in turn has clickable navigation options (see "Drop-Down Gorgeous," right, for more information). The JavaScript code that Fireworks produced for the drop-down action performed very well, both across browsers and across platforms.

Another nifty new feature is drag-and-drop rollovers, which consist of a simple JavaScript rollover, not a drop-down navigation system. You can now create a rollover image that's almost completely WYSIWYG—more points for Fireworks.

Fireworks has also learned to both mimic and play well with Photoshop. The addition of layer masks is a veritable coup for the application. And you can now import and export graphics in a PSD format, so layers remain editable. Note, however, that PSD text is not editable when imported into Fireworks.

Fireworks' biggest strengths have always been building and editing animated GIFs. Fireworks 4 brings the whole process into one convenient tab. The interface enhancements make this the best animated-GIF production environment we've ever seen, and make Fireworks 4 a worthy buy.

Fireworks 4 also improves on an already strong graphic optimization tradition. While optimization palettes in Photoshop and Fireworks (called Save For Web in Photoshop) have become so similar over the last few incarnations that they're nearly indistinguishable, Fireworks 4 ups the ante by adding selective JPEG compression to its palettes. This feature allows users to preserve quality in certain areas of a photo or graphic while compressing other areas more. In the battle for ever-smaller files, this is a powerful new weapon for the designer's arsenal.

All in all, Fireworks is finally beginning to win us over. It is still not the end-all solution Macromedia envisions for Web graphic production, but if you create animated GIFs and optimize graphics—and especially if you use Dreamweaver for HTML production—Fireworks 4 is a good buy and a real improvement over its predecessors.—*Jude Higdon*

good news: More stable than before. Drop-down menu creator. Drag-and-drop rollovers. New live animation. **bad news:** Non-editable Photoshop text layers. Some clunky new features.

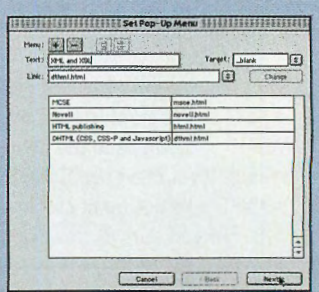
Drop-Down Gorgeous

Fireworks 4's new JavaScript capabilities can create drop-down navigation menus, and it goes something like this.

1 Create your navigation graphic using Fireworks' drawing tools. Here we've set up a navigation scheme with three main areas. Click the Slice tool. Draw a box around each segment (slice) of your graphic to which you wish to assign a rollover menu. Here we have three slices: Technology Consulting, Corporate Training, and Graphic And Web Design.

2 Select one of your sliced graphics (we chose Corporate Training) to create a menu for it. Select Pop-up Menu from the Insert menu to view the following dialog box.

In the text field, enter the name of the first item in this slice's pop-up menu (ours is called "MCSE"). Click the small plus (+) icon in the upper left corner of the dialog box to add items to the menu. When you've added all your menu options, click the Next button.



3 In the Cells field, select HTML so Fireworks builds your drop-down menu in HTML. Select a font and point size. In the Up State area, select the background and text color users will see before they roll over the menu option. Do the same in the Over State area for when users mouse over the menu option.

4 Choose Export from the File menu to export both the graphics and the HTML files. Open up your creation in your browser of choice and check it out. Bingo-bango—you've got drop-down Web menus that actually work!

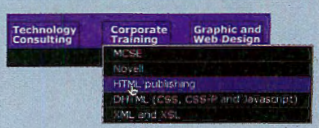
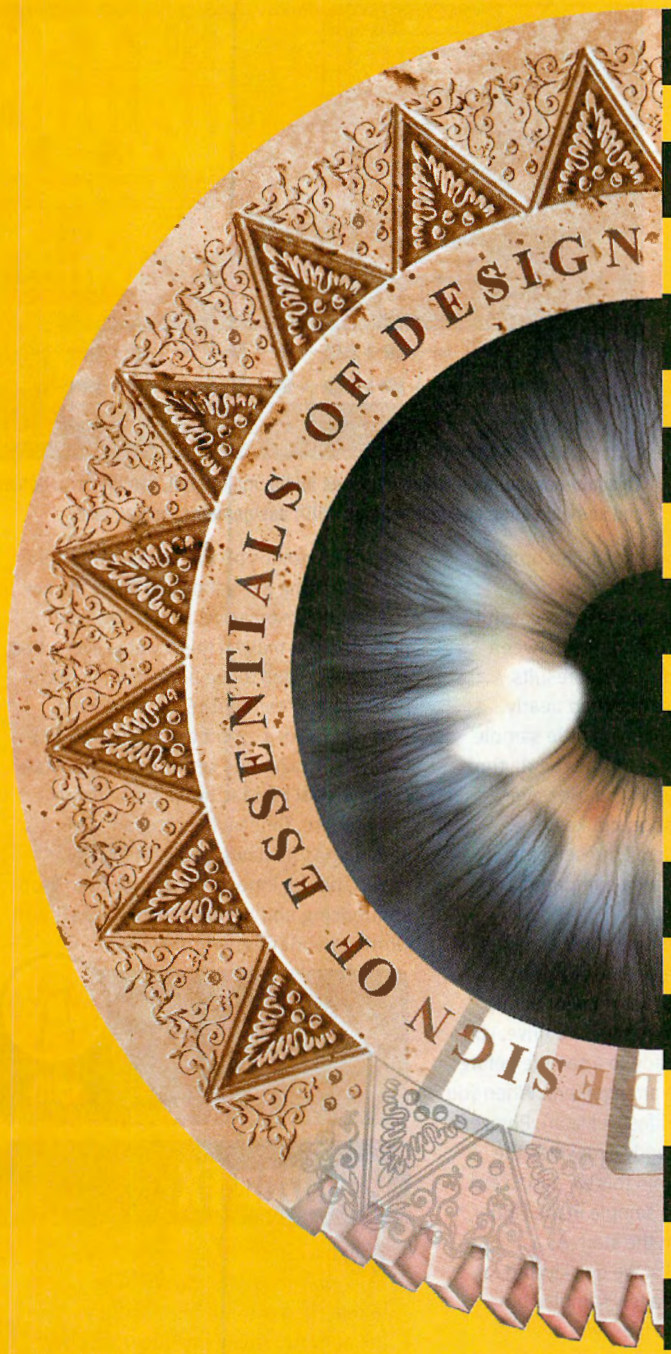


Illustration never looked so good.



Eye-catching illustration, isn't it? And yes, despite the glistening highlights, the realistic textures, the subtle shading, and the soft air-brushed effects, this is a completely vector illustration. And it's only possible with Canvas 7.

Match pinpoint precision with painterly strokes through Canvas 7's exclusive Sprite technology. Blur vector lines, paint transparency effects, apply image filter plug-ins to vectors, text and images. It's hard to believe that you can draw like this – never mind in one, attractively priced program. When you're done, prepare your creative visions for print or web with an incredible array of over 40 file format filters.*

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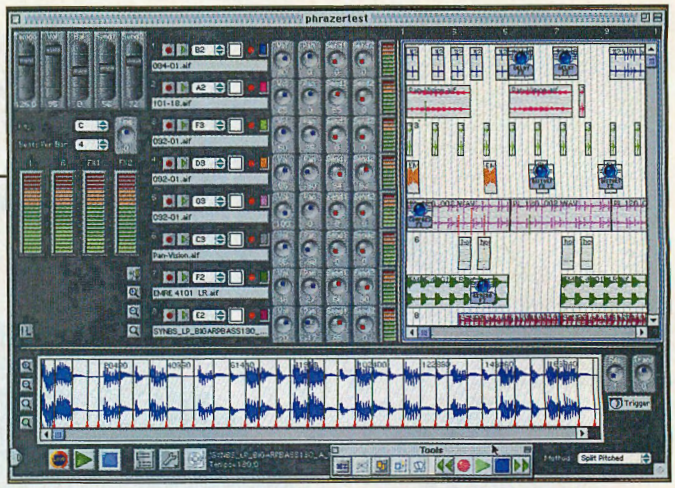
* 40 file formats available in Canvas 7 Professional Edition only.

Phrazer 1.0

audio

Company: BitHeadz
Contact: 831-465-9898, www.bitheadz.com
Price: $399 (SRP)
Requirements: 300MHz G3 or faster, Mac OS 8.1 or later, 64MB of RAM, 500MB of free hard disk space, 800 by 600 color display, CD-ROM



This jam-packed main window houses all the major stuff, like the arrangement and sample editor, channel settings, MIDI assignments, and so forth.

Find a demo of Phrazer 1.0 on The Disc.

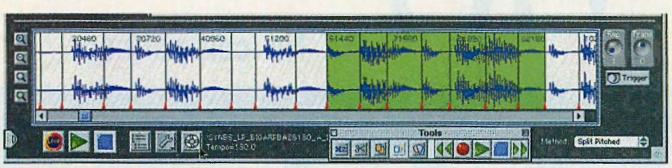
While our PC cousins enjoy Sonic Foundry's Acid, we Mac users have seen few applications that allow us to arrange and mix multitrack songs quickly and easily based on sampled grooves and sounds of varying tempos. Search no more. BitHeadz introduces Phrazer 1.0, a multitrack loop sequencer that does just that. While not without flaws, this application offers some extremely useful tools for the beat doctor in us all.

Phrazer allows you to build, arrange, and mix sample-based songs. You construct songs by auditioning and importing samples and loops to tracks and by placing track information (*events*, in Phrazer-speak)—volume, pan, effects settings, and so on—in the track. The application synchronizes sampled grooves of varying tempos without requiring time-consuming beat matching. Phrazer also includes a sample editor, effects, live play and record options, a track mixer, and groovy companion sounds. It supports most audio and MIDI software and interface options for the Mac: Rewire, Direct Connect, Direct I/O, ASIO, Sound Manager, MAS, FreeMIDI, and OMS. It reads WAV, AIFF, and Sound Designer files and imports Unity DS-1, Acid, and CD audio files. It's optimized for Velocity Engine, too.

Phrazer has a straightforward architecture. You can access nearly all controls from the main window. We started building a song at 126 beats per minute (bpm), auditioning sounds without having to stop the sequence. This awesome ability let us hear new sounds relative to the overall arrangement, rather than stopping the song, auditioning in a vacuum, and hoping for the best. To investigate Phrazer's autosync ability, we chose very slow grooves (75 to 80 bpm), because in our experience, most beat-matching applications are less successful when there's a great difference between source and target tempos. The results impressed us. Phrazer matched nearly every sound to 126 bpm with little sample degradation. In minutes, it had the rhythm tracks up and closely synced. However, the lack of zooming short-cut keys and the inability to scroll the selector beyond the viewable area hampered the arranging process.

We needed to fine-tune some samples in the sample editor, which is useful and navigation friendly but has a major pitfall. Since Phrazer reads from the hard drive, you must save changes made to a sample before they take effect in the arrangement. When you save them (using the lifesaver icon), Phrazer instantly and permanently overwrites the original sample. To avoid this we had to exit the software, copy the sample in the Finder, and use the copy from the start. As a workaround, this sucks. We quickly and effortlessly destroyed a few samples by mistakenly clicking the lifesaver.

Phrazer boasts that you can assign tracks key numbers and trigger them via MIDI and ASCII for live play. We used a MIDI controller, and the results impressed us. In most sequencers, MIDI triggers actually replay the sample—Phrazer's triggers mute the track's audio output volume, much as a conventional mixing board would do. While the trigger turns the volume on and off, the sample continues playing in real time, rather than restarting every time you press the key. The result is expressive, aggressive performance, making this a viable live option.



The sample editor is a useful inboard tool for rearranging and tweaking individual sounds without having to export them to a third-party editing app.

We recorded a live performance to the hard drive, creating a 16-bit stereo file. (Phrazer lacks a 24-bit recording option.) Overall, Phrazer has serious potential as a creative tool for Mac musicians. It's an easy-to-use, timesaving program. This first version has its flaws and isn't exactly cheap, but its innovative approach to loop sequencing and performance makes it well worth considering.—*Andrew Freid*

good news: Effortless loop syncing. Strong sample editor. Useful live play and record options. **bad news:** Limited quick keys. Sample save can be very dangerous. No 24-bit option.

Phrazer FX

Phrazer offers nondestructive effects options that, like plug-ins, process in real time without permanently altering the sample. These include track effect inserts, two effects sends, and two global effects. The sample editor also offers permanent effects processing with one level of undo. Some of the tools are quite convincing. Others, like the reverb and phaser, aren't. Phrazer doesn't currently support third-party effects architecture, as VST does, but it offers these fine flavors: EQ (various types—shelf, parametric, and so on), chorus, flanger, phaser, filters, delay, reverb, compression, distortion, and bit degradation (for that Grape Nuts crunchy feel).

Nike PSA/Play 120

PHOTOGRAPH BY AARON LAUER

hardware

The PSA/Play 120's stylish form factor turns heads—even those of hardened technophiles. At least you're getting *something* extra for the price.

Company: S3/Nike
Contact: 800-468-5846 or 541-967-2450, www.diamondmm.com
Price: $299 (SRP)
Requirements: USB-equipped Mac, Mac OS 8.5 or later, 32MB of RAM, 5MB of free hard disk space

The PSA/Play 120 portable MP3 player—codeveloped by Nike and Sonic Blue (formerly S3, formerly Diamond Multimedia)—aims squarely at stylish technojocks who want a little music with their sweat. This device offers decent, skip-free playback wrapped in a beautiful, action-friendly casing.

The PSA/Play 120 contains a solid 64MB of internal memory, and it ships with the standard version of SoundJam MP, which makes downloading tracks to the MP3 player (via the USB interface) a simple drag-and-drop affair. The unit comes preloaded with five songs from TVT Records—a bonus if you're a fan of Snoop Dogg and the Eastsidaz, Sevendust, Pills, XTC, or FastBall. If you're not, just erase the songs and load your own. The unit's fantastic design includes a detachable belt clip and a thick elastic armband that secures the player to your upper arm while you exercise.

The PSA/Play 120 also excels in performance, giving you 8 to 10 hours of playback off a single AA battery—long enough for several workouts. And it ships with a special set of headphones that have an in-line remote control. Annoyingly enough, the player doesn't show the amount of battery power left, so you may find yourself in the middle of a long run with—poof—no more tunes.

The device has a couple of other shortcomings besides its high price. Once songs download to the player, you can't rearrange or remove tracks. And although the player itself supports WMP (Windows Media Player) music files, currently there's no way to get them onto the device using your Mac.

Overall, the PSA/Play 120 is a solid, stylish, easy-to-use player that feels great on the go. Now, if only the price would come down...—*David Reynolds*

good news: Killer design. Adequate memory. Good battery life. Great armband for workouts. Several preset equalizer settings. **bad news:** Lacks some features, such as track shuffling and battery-level indicators. No way to upload WMP music files. Pricey.

JamP3

PHOTOGRAPH BY AARON LAUER

hardware

The silvery plastic JamP3 looks much more sturdy in this photo than in real life.

Company: KB Gear
Contact: 612-656-6000, www.jamonline.com
Price: $99 (SRP)
Requirements: USB-equipped Mac, Mac OS 8.5 or later, 32MB of RAM, 2MB of free hard disk space

Right now the portable MP3 player market is very competitive. Use that to your advantage and avoid the JamP3—there's a reason its price is so low.

KB Gear used a flimsy-feeling plastic for the JamP3, and the LCD screen displays only the track number and elapsed time. The device doesn't give you any way to lock down the control buttons, which you can easily jostle by accident. All things considered, the included bud-style earphones work surprisingly well. This is fortunate since the irregular shape of the JamP3's plug housing means you can't use most other headphones (we tried three pairs).

We could overlook these faults if the JamP3 had some compelling software or storage features. It doesn't. You won't even find the Mac software in the box; you have to download it from KB Gear's Web site. Unlike other players, which download tracks from your Mac with Casady & Green's SoundJam (www.soundjam.com), the JamP3 mounts like a disk when you plug it into the USB cable and turn it on. This gives you no control over the playlist order; all you can do is copy or delete MP3s as you would do with a disk.

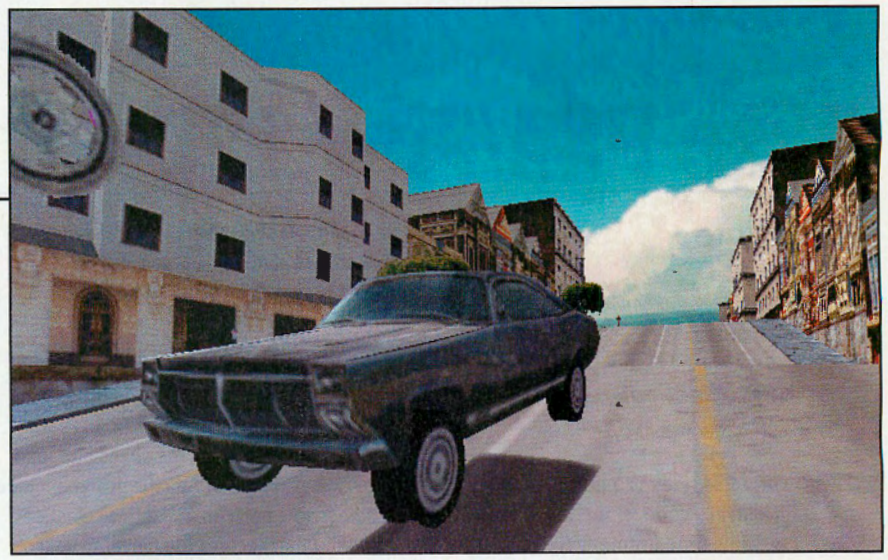
At press time, the Mac drivers for the JamP3 didn't support the player's MMC (MultiMediaCard) slot, which limits you to the paltry 16MB of on-board RAM—enough for about five songs recorded at 128 Kbps. KB Gear assures us that MMC support will be available by the time you read this. The JamP3 also requires that all file names end in .mp3, and it's incompatible with files encoded at more than 128 Kbps. All this adds up to a very inconvenient MP3 player. If you absolutely *must* have a portable MP3 player, JamP3 does function at the lowest price we've seen. But other, better players exist within $50 of the JamP3's price.—*Rich Pizor*

good news: High-quality headphones. Low price. **bad news:** Flimsy. Limited memory. Picky about names and encoding rates. Limited Mac compatibility.

Driver

fun & games

Company: MacSoft
Contact: 800-229-2714 or 612-249-7600, www.wizardworks.com/macsoft
Price: $29.99 (SRP)
Requirements: G3 or faster, Mac OS 8.6 or later, 64MB of RAM (with 128MB of virtual memory), 202MB of free hard disk space, Rage Pro or better video card, CD-ROM



As he soared by his apartment, Bob wondered why his rent was $4,500 per month.

Find a demo of Driver on The Disc.

Believe it or not, Driver is one of the best-selling video games of all time, and its sequel (already available for the PlayStation) is one of the fastest-selling titles in history. Millions of copies of this game have shipped worldwide, and now, three years later, MacSoft has "converted" it to Macintosh. In truth, the company simply dumped it onto the Mac—not from the PC, but straight from the PlayStation, with hardly an improvement in sight.

The game itself is pretty straightforward: You play the part of an undercover cop assigned the task of infiltrating some kind of underground car-smuggling ring. In gameplay terms, this equates to lots of spectacular *Bullitt*-style car chases through the streets of San Francisco, New York, and Miami. Because San Francisco is easily the most interesting location to drive in, the game makes it available from the very beginning, but only as a practice location—its place in the plot occurs much later.

The driving scenarios are mission based: Steal a car and take it to a body shop, catch up with some drug smugglers—the scenarios include basically anything that could happen in an episode of *Miami Vice*, or worse, *Nash Bridges*. One of the few flaws in the gameplay is the lack of balance between missions—some are extraordinarily easy, while others border on the impossible. Fortunately, the learning curve for driving the car is pretty simple.

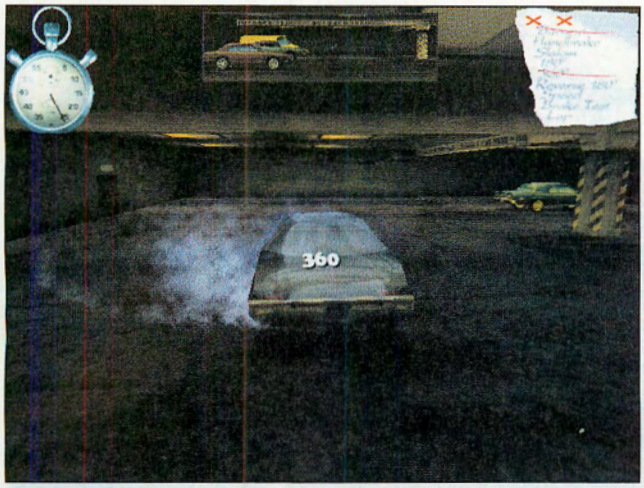
The streets of San Francisco look the part and are based (very roughly) on maps of the city.

The car's controls are basic in the extreme—left, right, gas, brake, and hand brake—but the realistic physics model gives players a tremendously subtle control over vehicles. The driver can hammer into a 90-degree turn, slam on the hand brake, and zip through the turn like a Tron light cycle. Learning the weight and relative instability of your big, heavy piece of American seventies heavy metal is essential. It's fast and stupid in the best Detroit tradition. The feeling of achievement when you master 180- and then 360-degree spins is worth the admission price.

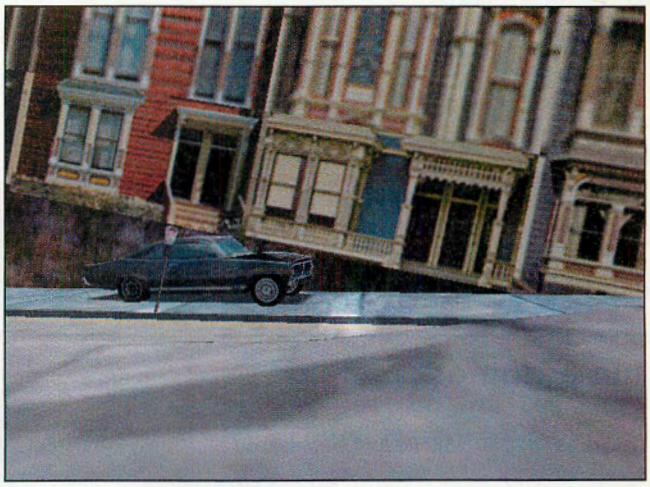
The other cars and obstacles react realistically to collisions, and while police cars can smash your car to bits, you can leap over them or simply knock them out of the way. You need to control the mechanics of crashing every bit as carefully as those of collision avoidance. You should avoid street side obstacles like trees, but you can happily bash parking meters and trash cans to oblivion. And yes, you do have to drive on the sidewalk.

The game's very first level is one of its many failings, however: a training mode that's actually much more difficult than most of the in-game missions. We know a few PlayStation players who gave up the ghost without ever making it out of the training garage, but the trick here is to actually read the instruction manual—not the first port of call for most console players.

Graphically, the game is a contradiction. It lifts all of the textures and models straight from the PlayStation version, and this shows. Chunky, low-res bitmaps decorate the otherwise sufficient polygonal scenery, and the game actually installs two



The first challenge takes place in an underground garage, requiring you to learn the car's abilities and test your own.



This replay angle demonstrates exactly why it's hazardous to ride a bicycle on these streets.

separate versions: a software mode and a Glide mode. Glide is a long-abandoned graphic technique first used by early, crappy 3dfx cards (it works on ATI cards, too)—why it's included here is one of the game's multiple mysteries. But you'll probably be using the Glide mode, since it's sharper and smoother than the rather ropy software mode. The animation and sense of speed, however, are stunning, as is the realistic volume of city traffic.

Worse yet is the fact that the draw-in distance is about two city blocks in this virtual universe. This is unforgivable and smacks of outright laziness—running it on a G4 with a Voodoo 5 and 384MB should make for a much broader landscape. Again—and inexplicably—the Mac version lifts this distance from the PlayStation game; the only saving grace here is that the Windows rendition shares the problem.

And then there's the sound. If you've ever had the pleasure of hearing a fully blown Hemi or a giant American V8, then you'll remember fondly the rich baritone grunt and the dense wall of roaring power. Quite how that became the wasp-farting-in-a-can noise that warbles limply from your Mac speaker is a mystery. Add to that the ridiculous, embarrassing voice-overs from the cut scenes, and you have perhaps the most sonically challenged Macintosh game ever made.

So why, with all these problems and this malaise of hateful crap, is this one of the best driving games ever realized on the Mac? Because it plays like a dream. Even the awful, unstructured, get-from-point-A-to-point-B missions are incredibly enjoyable. Racing against the police (who don't know about your undercover status) adds to the sense of drama and pace as you tear through city streets, mount the sidewalk, or smash through park benches. The feeling of being chased is ironically very liberating. And making it to the San Francisco streets is reward enough—you'll realize that you haven't played the game until you try to control a two-ton car on a 50-foot jump right over Lombard Street.

Driver has some nice extras built in that alleviate the otherwise tawdry level of finish—for example, the Director mode lets you record and edit "movies" of your in-game exploits, adjusting camera angles, positioning flybys, and even seeing the action from your pursuers' point of view. It's also possible to earn and store cheats that change the physics and the pace of the game.

A few graphical tweaks and even some rudimentary changes to the interface would have made Driver an instant and all-time Mac classic, but this product has always been problematic and the Mac version feels particularly unloved and unfinished. But it's still, to coin a phrase, hecka fun.

—Frank O'Connor

good news: Addictive gem of a game. **bad news:** Buggy. Ridiculous cut scenes. Horrible options. Appalling interface design.

What We'll Put Ourselves Through for Fun

Ack! After deciding to change our controls setup for the fourth time—in part because the defaults are absurd—we became less than enthused with the need to restart the game every time we wanted to effect a change. We also didn't want to watch the horrible cut scenes between levels, which do nothing to explain what's going on and contain the ugliest graphics of our time. And believe us, they looked crappy on the PlayStation three years ago, too. We didn't need to see the inadvertently racist stereotypes injected by the British designers, who apparently didn't have the sense to run the script by a fifth grader to check for accuracy or political correctness. In short, this is delicious soft-centered candy coated not in chocolate, but rather in elephant poop. The question is, how much crap are you prepared to eat to get to the candy?

The pile-up you just caused is in fact blocking the intersection.

Star Trek: Voyager Elite Force

fun & games

Company: Aspyr
Contact: 888-212-7797 or 512-708-8100, www.aspyr.com
Price: $49.95 (SRP)
Requirements: 266MHz G3 or faster, Mac OS 8.6 or later, 64MB of RAM, 128MB Virtual Memory, 3D-accelerated video card (such as Rage 128 or Voodoo 5 5500) with 6MB VRAM, 560MB of free hard disk space, OpenGL 1.1.2 or later, Internet connection for multiplayer mode

That'll teach you to oversteam my latte! In Star Trek: Voyager Elite Force, you play the role of the Federation's best, going up against the Borg and several other alien species. (We come in peace! Shoot to kill, shoot to kill...)

Star Trek: Voyager Elite Force has the distinction of being perhaps the first game based on the venerable Paramount franchise that doesn't, well, suck, since the original vector-based Star Trek game hit the arcades many, many years ago.

Based on the Quake III engine, Elite Force casts you as the second-in-command of an Elite Force squad on the castaway starship Voyager. Early on, Voyager gets stuck in a sort of Sargasso Sea of stranded ships, and it's up to you and the crew to find a way out. There are plenty of opportunities for combat with several different alien species (including the Borg), and Star Trek aficionados will find a surprise from the past waiting for them.

Right away, you'll notice major differences between Elite Force and Quake III. First, you're part of a team, which means some computer-controlled characters will shoot at the enemy. If you kill or maim a teammate, you're up for court martial. (For kicks, try a couple of phaser blasts at Tuvoc in the transporter room. You'll find out just how tough your fellow teammates can be.)

Oh, yeah–that felt good. During Holodeck matches, you may get the chance to knock off Star Trek: Voyager characters, over and over again.

Throughout the game, you'll go on a series of missions, with clear (and sometimes malleable) objectives. Achieve all of your objectives, and it's on to the next mission. Although the maps and puzzles in the game are entertaining, there's a sense that Elite Force protects you from straying too far off course—protects you from getting too lost, that is. This can be frustrating, especially for those used to the more open-ended approach of Marathon or Unreal Tournament.

Almost all of the game's cut-scenes (videos), which use the real voices of the series actors, are rendered using the game engine. So, you'll see the same glitches that you might see during gameplay—characters pointing at things with block hands instead of fingers, and people gliding instead of walking—but the consistency keeps the cut-scenes from being jarring.

Plot-based games can feel forced and stilted, but Elite Force does a very good job at avoiding this. This partially is due to decent writing, but mostly it's due to events that happen during combat missions. You also spend most of your time fighting, not watching lame cut-scenes. The characters come across as fairly well rounded, and there's even some bantering among teammates. Of course, you can predict what's going to happen to some of the characters a long time before it does, but that takes a special kind of genius to avoid.

Elite Force suffers from a relatively weak artificial intelligence. Although your computer-controlled teammates actually help you out at times, the enemies employ one basic tactic with few variations: They move toward you, firing all the while. That limits your strategy to seeing if you (and your ammo) can last longer than your foes. Still, not all of the missions call for you to jump in, guns blazing. One mission requires extensive use of stealth tactics, which is perhaps the best part of the game.

Of course, a Quake III–based game wouldn't be complete without a multiplayer element, and Elite Force delivers with a separate application called the Holomatch. Holomatches feel a lot more like Quake III than the single-player game does, and they offer more game types too–including Capture the Flag and a team deathmatch. Although the Holomatches don't break new ground, they *are* a lot of fun.

Elite Force should keep first-person gamers occupied for hours, with multiple missions and the chance to try out some Federation weaponry. For multiplayer gamers, the Holomatch games are a lot of fun. In fact, Star Trek: Voyager Elite Force is a good deal better than the television series that inspired it.—*David Reynolds*

good news: Decent plot. Solid gameplay. Good balance between Quake and Star Trek franchises.
bad news: Long load times. Moderately dumb enemy AI. Glitches in game engine.

HipZip

hardware

Company: Iomega
Contact: 800-697-8833, www.iomega.com
Price: $299 (SRP)
Requirements: USB-equipped Mac, Mac OS 8.6 or later, 20MB of free hard disk space, CD-ROM

PHOTOGRAPH BY AARON LAUER

The HipZip's disks only hold 40MB, but the player's features make up for it.

Seeking to redefine itself, Iomega has renamed its 40MB Click disks (essentially tiny Zip disks) PocketZips, and is cramming them into as many devices as possible. The HipZip portable MP3 player is a solid first step.

The HipZip is feature packed: It sports a digital equalizer, a variety of play modes, a playlist manager, and a built-in lithium-ion rechargeable battery. Iomega promises 12 hours of continuous play per charge. We found this estimate accurate, as long as you turn off the LCD display's backlight.

Iomega's affordable PocketZip media is what sets the HipZip apart. A pack of ten 40MB PocketZip cards runs about $100, roughly the same price as one 48MB to 64MB CompactFlash or SmartMedia card. Unfortunately, since a single high-quality audio track can have a file size of up to 5MB, some audiophiles will find the 40MB maximum too limiting for their playlists. Plus, the HipZip lacks internal memory (though two PocketZip disks are included).

To download tracks to the HipZip, just plug it into your Mac via USB. It shows up on your desktop like any disk, ready for drag-and-drop copying of MP3 or Windows Media files. You can specify a playlist order on the HipZip itself—just don't turn the device off, or you'll nuke your playlist. Although Iomega says you must connect the HipZip directly to a built-in USB port, we had no problems connecting ours to a four-port hub, attached to a 6-foot port extender cord, attached to a USB port on a PCI card in a beige Mac.

The HipZip won't appeal to those who already have a vast collection of SmartMedia or CompactFlash cards or those who crave audio of ultrahigh quality. But if you prize expendability over quality, you'll find the HipZip's cheap media and support for dual audio formats appealing.—*Rich Pizor*

good news: Cheap media. Supports multiple audio standards. Built-in battery. Uses standard Iomega drivers and utilities. **bad news:** Yet another media storage standard. No internal memory.

Mixman Studio Pro 4

audio

Company: Mixman Technologies, Beatnik
Contact: 877-295-6593, www.mixman.com
Price: $89.95 (SRP)
Requirements: 233MHz PowerPC or faster, Mac OS 8.6 or later, 96MB of RAM (128MB or more recommended), 300MB of free hard disk space

The Editing Studio makes Mixman a more serious tool than the toy it used to be.

With the third iteration of Beatnik's Mixman Studio product, Mixman Studio Pro 4.0, Mac users finally get what PC users have long enjoyed—the ability to *edit* remixes. Until now, the Mac version of Mixman has lacked the Editing Studio, which gives you the ability to fix mistakes in a live recording and create sequences that would be difficult or impossible to record live.

With Mixman Studio Pro also comes the new FX Studio environment, where you can feed individual tracks like drums, bass, or vocals through a variety of audio effects. You have your pick of quite a few effects, which you can choose either individually or in combination. You can then return to the remixing studio environment to create your final version of the "effected" tracks.

Among this version's new features, the WARP controller (a real-time audio tool for adding different audio effects on the fly) is probably the most fun to use. It gives your remixes a new dimension you couldn't achieve in the previous version of Mixman Studio.

Unfortunately, we've waited for the pro version of this program for a long time—a little too long. The signature interface is really getting tired and the new features don't offer a compelling reason to upgrade. The remixes you create have some severe limitations. You must keep your mouse depressed to sustain a WARP effect, and you can't remove an effect from a given track within the remix.

New users may find Mixman Studio Pro a fun tool for getting started in music construction, as well as for distributing remixes through Mixzone, where visitors can listen to the tracks. Hard-core users have the option to record their own audio tracks for original remixes, but it's unlikely they would choose Mixman Studio Pro for the task.—*Andrew Tokuda*

good news: Ability to edit your mixes. WARP tool is fun. **bad news:** More toy than tool. New features aren't compelling.

4x4 Evolution

fun & games

Company: Terminal Reality and Gathering of Developers
Contact: 214-880-0001, www.terminalreality.com or www.godgames.com
Price: $39.99 (SRP)
Requirements: G3 processor or faster, Mac OS 8.6 or later, 64MB of RAM, 300MB of free hard disk space, OpenGL-capable video card with 6MB of VRAM

In 4x4 Evolution, you can buy more vehicle than you could ever afford in real life—and you might be willing to take a Lexus SUV off road, too.

In these days of global warming and politically incorrect SUVs, it's good to know that closet four-wheelers have a place to get their dirt-churning kicks without raising howls of protest. 4x4 Evolution, from Terminal Reality and Gathering of Developers is a romp through the mud and snow, in which you pit your modified truck against those of other drivers in a quest for glory and fortune. You can choose from many different real-world trucks made by manufacturers such as Ford, Chevy, Dodge, and Toyota, and you can even download your own vehicle add-ons.

Racetracks cover the outdoor gamut from desert to arctic wasteland, with visits to a truck stop, working and abandoned airfields, a mountain pass, an oil field, and many other places. Each track has its own quirks and shortcuts, and you can race at different times of day under various weather conditions—including rain, snow, and fog. There's nothing like attacking a course you've raced several times in midday sunshine, only to face it at night in pouring rain. That's a humbling experience. And if the variety of tracks isn't enough to satisfy you, the 4x4 Evo box states that you can roll your own via a downloadable track editor. We couldn't find such a beast, however; Terminal Reality says it was not ready at press time.

The game features three basic race modes: Quick Race, Time Attack, and Career. The first two are variations of the same theme—jump in a vehicle (either one you choose on the fly or—if you've already started a career—one from your garage) and race. The objective of Quick Race is to finish in first place, while Time Attack pits you against the best recorded lap time on any particular course.

Career mode is where things get really interesting. You receive a modest sum of money, with which you have to buy a vehicle and as many modifications as you can afford. You then race in a series for purse money, which you can spend on new upgrades for your vehicle or on a whole new truck, if you want to start a fleet. The trucks are beautifully rendered, and you can waste your money enhancing the appearance of your ride. It's possible to create multiple profiles in 4x4 Evo, each with its own fleet of trucks.

Gameplay is fantastic. After spending a little bit of time getting used to the controls (you really should use a racing wheel with this game), you'll be spinning around the track, mastering 100-foot jumps, and splashing through mud and water. The bots you race against are solid drivers, and they make tough competitors—although they occasionally perform astoundingly stupid maneuvers. Once you finish a race, you're treated to a replay, in which you can watch your favorite moments over and over again.

Although the AI drivers are good (and tricky enough to be annoying), they don't compare to racing against other human beings. 4x4 Evo lets you battle against other sentient beings in two different network modes: Internet and LAN games. LAN games work as you would expect—you can host a game or join one via TCP/IP. If you want to play on the Internet, you have

Get Behind a Wheel

If you plan on playing 4x4 Evolution for any length of time (and you're looking for an excuse to buy another peripheral), you'll definitely want to invest in a steering wheel. While just about any wheel that works with your Mac will help matters, we tested 4x4 Evo with the Thrustmaster NASCAR Pro Digital 2 wheel-and-pedal set. You can check it out at www.thrustmaster.com. The wheel and pedals are $59.99 (SRP).

Thrustmaster's NASCAR Pro Digital 2 USB racing wheel will keep you out of ditches and away from trees—what else can you ask for at $60?

On the very first lap using the Pro Digital 2, we set a record speed, and things just went uphill from there. The wheel gave us fine-touch control over steering, while the pedals allowed for variable accelerator control—a must for climbing a muddy hill.

If you have some extra cash earmarked for an upgrade, consider buying a wheel. You'll be much happier if you do, and you'll want it for MacSoft's Driver (see *Reviews*, this issue, p50).

to create a GameSpy account and use the the company's servers—an extra step, but not a deal-killer. Network play in both modes is satisfying, but lag can kill an otherwise good race. Fortunately for those who feel ghettoized, 4x4 Evo's network mode also lets Mac users play with both PC and Sega Dreamcast users.

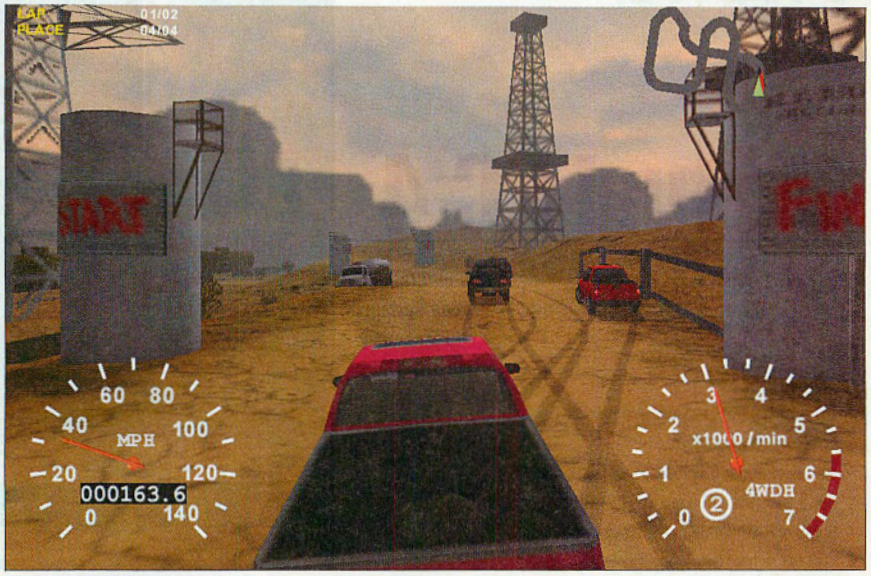
One thing missing from the game is the ability to damage your vehicle. Terminal Reality went to great pains to build an accurate physics model into 4x4 Evo, going so far as to simulate drop tests to see how vehicles will handle. The problem is that you can run head on into a semi at 80 miles per hour and nothing happens to you or your vehicle. In an otherwise accurately simulated world, this inability to do yourself or your machine any harm stands out like a rabbit on the road. It would be great to have the ability to make a smoking ruin of your opponents' vehicles by forcing them into a tree.

4x4 Evolution is an addictive game with lots of depth and enough realism to draw in those who want to tinker endlessly with their vehicles. For those who just want the opportunity to wrap themselves around a tree without installing a lift kit and an aluminum drive shaft, 4x4 Evo lets you do that, too. It's simply a great driving game.
—David Reynolds

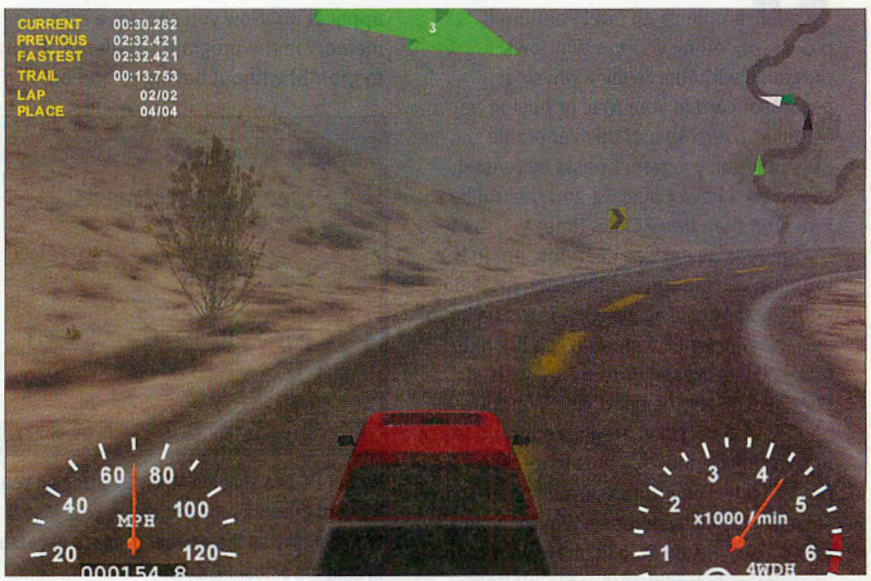
good news: Deep game for the price. Great physics model. Plenty to keep almost any gamer occupied. Realistic vehicle modeling. Ships with an unsupported Mac OS X Public Beta–compatible version.
bad news: Indestructible trucks seem unrealistic. No dedicated server mode. Track editor not ready.

4x4 Tips

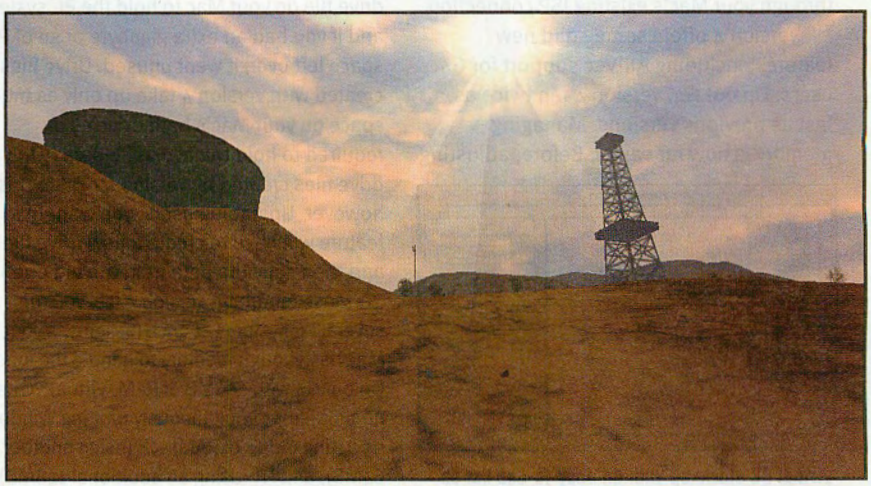
1. Use the accelerator with care. Slick conditions will cause your vehicle to spin out at full revs, and you won't get traction.
2. Get a driving wheel and pedals if you plan on playing this game seriously.
3. Set your vehicle to oversteer as much as you can stand. You'll be rewarded with quicker turns.
4. The same goes for other truck tune-ups, such as tires, braking ratios, and drive ratios. You'll get the best times.
5. Keep an eye open for shortcuts between checkpoints. You'll have to use them to beat other racers. If you're unsure of where they are, stay behind the lead vehicle—it'll usually lead you to them.



Who woulda thought—skid marks on a dirt road. In 4x4 Evolution, your objective is to finish *in front* of the other drivers.

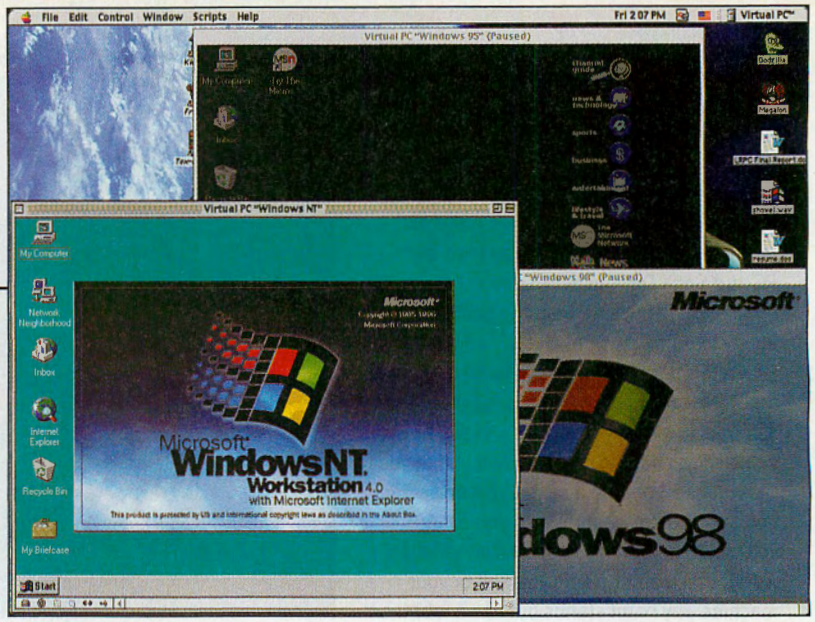


Weather conditions play a big part in how a race goes. You may face rain, snow, and even fog (as in this scenario), which can test the best of drivers.



A working oil field never looked as good as it does through the window of a Toyota Tacoma.

Virtual PC 4



productivity

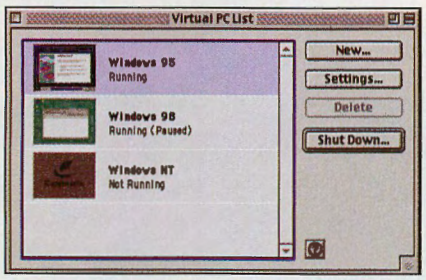
Run different PC operating systems simultaneously.

Company: Connectix
Contact: 800-950-5880 or 650-571-5100, www.connectix.com
Price: $199 (SRP, includes Windows 98 Second Edition), $79 (upgrade)
Requirements: G3 processor or faster, Mac OS 8.5 or later (Mac OS 9 required for USB support), 50MB of RAM (64MB or more recommended), 1GB of free hard disk space, CD-ROM

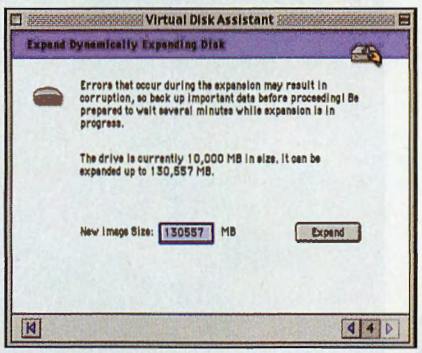
Connectix's Virtual PC essentially puts a PC on your Mac desktop. It mimics an Intel Pentium II processor, letting you run Windows programs without having a physical processor card in your Mac or buying an actual PC. Version 4 of this venerable PC-emulation program boasts increased speed on a Power Mac G4 and the ability to run more than one PC at a time.

Setup is as easy as ever: Just put in the program CD and run the installer. Installing additional operating systems is also a snap, and the well-written manual is a big help. (Connectix released Virtual PC 4 with Windows 98 preinstalled, and Windows Me and PC-DOS versions aren't far behind. As of this writing Connectix plans to release "OS packs" in the near future, preinstalled with such operating systems as Windows 2000 and Linux.) Virtual PC can share your Mac's IP address, providing full cross-platform support on your company's network. Home users can connect directly to the Internet through your Mac's existing ISP connection.

Version 4 offers some solid new features, including AltiVec support for G4 users. On our G4, version 4 ran twice as fast as previous versions. Managing memory is now far easier. Before, adjusting the PC's memory usage meant changing the memory allocation of the Virtual PC application. Now you can set a PC's memory in the program's preferences (up to 512MB) without having to quit out.



Virtual PC starts up with an easy-to-use list so you can choose which OS you want to run.



Virtual PC can allocate as much space on your PC hard drive as you like...but on your Mac it will only take up the amount of space necessary to hold the actual PC data.

New to Virtual PC 4 is dynamic drive size. Earlier versions made you create a fixed-size drive file on your Mac to hold the PC system, and if you had an extra gigabyte or so of PC space left over, it went unused. Drive files created with version 4 take up only as much space on your Mac's hard drive as is required to hold the actual PC data. (Only drive files created by version 4 can do this, however. Upgrading users who want this feature will have to create a new drive file and then copy the data from the old one.)

Most important, version 4 lets you run several PC systems at once (as long as your Mac has enough memory to handle the load). On our G4 with 256MB of RAM, Virtual PC had no problems simultaneously running Windows 95 (using 64MB of RAM), 98 (using another 64MB), and NT (using an additional 128MB). If you have more than one PC going at once, you have the option of pausing any PCs running in the background, thus letting Virtual PC give all its processing power to the frontmost PC.

We have a couple of small complaints with Virtual PC 4. We wish Connectix had built support for 3D hardware acceleration and multiprocessing into version 4, and we hope the next version will include these. We also hope Virtual PC will get better at working with third-party system additions (see "Running a Stable PC," below).

If you have to run PC software but you don't want to give up your Mac, check out Virtual PC 4. It's cheaper than a new PC and more flexible, too.—*Mark D. Shuchat-Marx*

good news: Considerably faster than earlier versions. Now includes AltiVec support. Flexible memory and disk usage. Easy setup. Good manual.
bad news: No support for multiprocessing or 3D hardware accelerator cards. Some instability with all extensions turned on.

Running a Stable PC

When we ran Virtual PC with the full Mac OS, as well as all our third-party extensions, the program froze. After some troubleshooting, we discovered that the best way to stabilize Virtual PC is simply to turn off all third-party extensions. There are two ways to do this.

1. Select Mac OS Base from the Selected Set drop-down menu in the Extensions Manager (in Control Panels in the Apple menu), then restart.
2. If you are running Casady & Greene's Conflict Catcher, select Mac OS Base from the Conflict Catcher menu, then restart.

Mimio

hardware

Company: Virtual Ink
Contact: 877-696-4646 or 617-623-8387, www.virtualink.com
Price: $599 (SRP)
Requirements: G3 or faster processor, Mac OS 8.6 or later, 64MB of RAM, 6MB of free hard disk space, available USB port

PHOTOGRAPH BY AARON LAUER

If you work at a whiteboard a lot, this long blue bar might be worth considering.

How familiar is this scenario? You're snoozing at a team meeting where someone is frantically writing on a whiteboard or flip chart. Just as you consider jotting down some notes, the meeting is over, and all you have on paper is an elaborate doodle of your initials. With Virtual Ink's Mimio, you could have kept sleeping.

The Mimio records writing on a whiteboard and displays the marks on your Mac. If you've got an LCD projector, you can project your Mac's screen onto a whiteboard and use a blank stylus as a mouse—letting you control your Mac without leaving the whiteboard. The basic hardware product is a plastic bar that you attach to the edge of a whiteboard, then connect to your Mac with a USB cable. The Mimio comes with an application that displays a picture of a whiteboard; as you make marks on the physical whiteboard, they immediately appear onscreen. You can export the screen capture as a JPEG or PICT, or replay the series of pen strokes as a little movie viewable in the Mimio app. (The next version will allow you to export these movies.) You can tell the program to save the markings on the board at any time, and print stored boards separately.

The Mimio uses extremely clever technology—pens sit in plastic pressure-sensitive cases that emit both infrared and ultrasound signals. Four different cases let the Mimio distinguish between blue, black, red, and green whiteboard pens, and these marks appear onscreen in the correct colors. The Mimio measures the difference between when the ultrasound signal arrives at the top and bottom of the bar, as well as the IR signal's arrival time, to work out where the pen has touched the board. The system is remarkably accurate—once we trained ourselves to push down hard enough with the pens to activate the enclosure's emitters, we found that the Mimio captured even our smallest marks correctly.

If the Mimio has a problem, it's that it makes you think of many uses the product doesn't support. If the software recorded the board's tracks as Bézier curves instead of a series of dots and let you export EPS files, the output would be good enough to include directly into documents as sketches.

Unfortunately, you can only output PICT and JPEG files, and the exported PICTs render slowly. You can't export animations as QuickTime movies, so you can play back only within the Mimio program itself (Virtual Ink promises to fix this with the next version of its software). Still, these are minor limitations; what the Mimio does, it does very well indeed.

—Ian Sammis

good news: Records whiteboard discussions. Cool Mimio mouse facility. **bad news:** Can't export Mimio movies.

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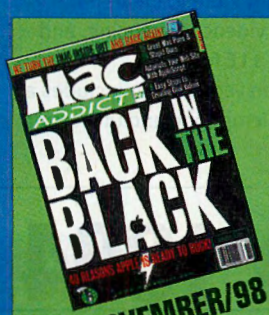

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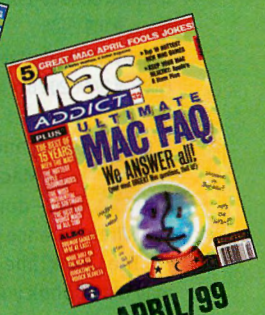

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iBot Pro

hardware

Company: Orange Micro
Contact: 714-779-2772, www.orangemicro.com
Price: $149 (SRP)
Requirements: FireWire-equipped Mac (PowerBook users, see tip below), Mac OS 8.6 or later, 32MB of RAM, 12MB of free hard disk space, CD-ROM

PHOTOGRAPH BY AARON LAUER

What has two legs but only one foot?

You can't help but smile at the sight of the iBot Pro. The cam's round body will strike a chord with anyone who remembers the thrill of those golf ball–style QuickCams of the mid to late 1990s. The iBot is everything those QuickCams wanted to be and then some.

It's always a good feeling to pop in a dual-platform CD and see a generous bundle of Mac-friendly software. This one includes BTV Edit/BTV View for general video capturing and editing, ClearPhone and VideoLink for videoconferencing, and Adobe Premiere 5.1 LE for video production. The Pro version also includes a Labtec headset microphone and universal PlainTalk adapter.

Like other FireWire Web cams, iBot can handle the standard 24-bit RGB and YUV video formats, but not the one Apple's iMovie recognizes (Digital Video Stream). That's a small matter, given the inclusion of Adobe Premiere LE and QuickTime Pro's ability to export to the required DV format. True to Orange Micro's claims, iBot captures video at 30 fps, with better quality than you'd expect from a low-priced Web cam. Even at full size (640 by 480), the video is smooth, though the image quality degrades a bit.

iBot's fun footstand also adds some versatility for positioning the cam. We still wish it had a tripod mount, which would provide more stability as well as more options for camera placement and point-of-view filming. The iBot cam is very light, and the hefty FireWire cable makes repositioning the beast precarious at best.

iBot is proof that Bondi blue never went out of style—even if the device won't work on the FireWire-challenged first-generation iMacs.—*Niko Coucouvanis*

good news: Funky yet functional design. Great software bundle. Inexpensive.
bad news: No tripod mount.

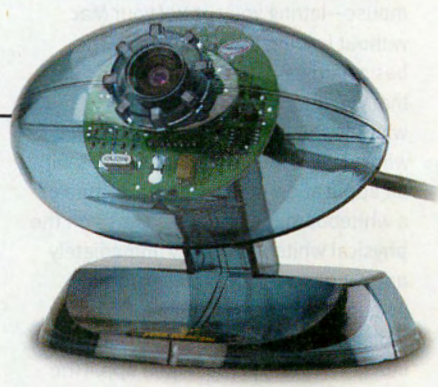
Power to the 'Books

Think you're covered because your 'Book has onboard FireWire? Think again. The first round of FireWire-enabled PowerBooks doesn't quite work with either cam. A combination FireWire hub or power-pushing CardBus card should do the trick.

Pyro 1394 Web Cam

hardware

Company: ADS Technologies
Contact: 562-926-1928, www.adstech.com
Price: $169 (SRP)
Requirements: FireWire-equipped Mac (PowerBook users, see tip above), Mac OS 9, 64MB of RAM, 20MB of free hard disk space, CD-ROM



PHOTOGRAPH BY AARON LAUER

You'll look almost as good on the Pyro as it'll look on your Graphite Mac.

ADS Technologies' Pyro 1394 cam is as Mac-friendly as the next Web cam—don't let the numeric FireWire reference spook you.

The QuickTime-based software installer may also spook you, since it does nothing more than open folders on the CD. To get started, all you really need to do is drag the DCam driver extension from the Pyro disc's Extensions folder to your System Folder's Extensions folder and restart. Then you have plug-and-play digital video.

Pyro comes bundled with HackTV and VideoLink—solid tools for video capture and conferencing, respectively—as well as the mediocre VideoImpression and PhotoFantasy video and image editing software. If you've got QuickTime Pro to export video as a DV Stream, Pyro works with iMovie 2. On its own, Pyro supports the more common RGB (24-bit) video and YUV formats.

The 1/4-inch CCD has a 659 by 494 resolution, about half the pixel size of today's lower-end digital still cameras, but it captures video handily at the advertised 30 fps. Smaller images are impressively crisp and clear, but image quality gets a bit grainy at 640 by 480.

The Pyro's mount, though stylish, limits its mobility. The camera looks up and down but not side to side, and it lacks a tripod mount. But for its intended placement on top of your Mac, with enough duct tape, the Pyro is a great Web cam.
—*Niko Coucouvanis*

good news: Good image quality. Plug-and-play right out of the box.
bad news: Confusing software installer. Weak software bundle.

Wheel of Fortune

fun & games

Company: MacSoft
Contact: 800-229-2714 or 612-249-7600, www.wizardworks.com/macsoft
Price: $29.99 (SRP)
Requirements: 132MHz PowerPC or faster, Mac OS 8.1 or later, 32MB of RAM, 25MB of free hard disk space, 4X CD-ROM

MacSoft's Wheel of Fortune is surprisingly entertaining—but for brainiacs, it's no Jeopardy.

Playing MacSoft's Wheel of Fortune is a lot more entertaining than watching the Sony Pictures TV game show it's named after. You can choose your competitors, avoid the commercials, and turn off Vanna White.

Play is relatively smooth on a 400MHz G4, save a few stutters in the videos of Vanna and the fabulous fantasy prizes (you can turn these off in the Options startup menu). We encountered a few memory problems with the minimum RAM requirements, but boosting virtual memory to 256MB (this is probably overkill) solved them.

Hosted by a pixelated, permanently smiling Vanna White, the game plays as it does on television. It's basically hangman set to Hollywood-style flashing lights and fireworks. You can select from 11 exotic playing locations such as Paris, Africa, and the Wild West. First, choose whether to play alone, against other humans, or against computer-generated players. Next, spin the wheel to guess the correct letters to a word or phrase. Get stuck? Buy a vowel. Know the answer? Solve the puzzle and win money and the cash value of prizes.

Unless you play in Solo mode, you need three players. If you don't have that many human bodies, the game will happily set you up with computer players. But beware—they are annoyingly clever. Lose your turn to them, and you might never get back into the game. Wheel of Fortune is only moderately challenging, but while you can't change the level of difficulty, you can speed up the timer. The game also offers more than 2,000 puzzles, so it's likely to be a long time before you see repeats.

MacSoft's Wheel of Fortune is about as cheesy as the TV show. Still, it's entertaining and plays well on a laptop—a good distraction for those long flights.—*Narasu Rebbapragada*

good news: Entertaining. Cute graphics. **bad news:** You can't change the difficulty level. Vanna gets annoying.

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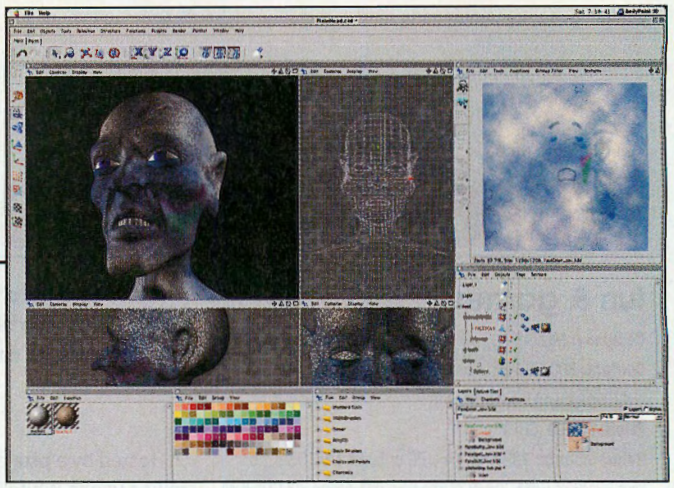
BodyPaint 3D

design & graphics

Company: Maxon Computer
Contact: 877-226-4628, www.maxoncomputer.com
Price: $595 (SRP)
Requirements: PowerPC, Mac OS 7.6.1 or later, 64MB of RAM, 90MB of free hard disk space, CD-ROM



The actual texture file in the far right window wraps to the surface of the 3D model. Painting can take place in any window, and all windows update simultaneously.

BodyPaint 3D from Maxon Computer, the makers of Cinema 4D, lets 3D artists create complex surface textures for their virtual models. By allowing users to paint directly on the surface of the model with real-time display feedback, BodyPaint provides an interactive environment for creating, testing, and experimenting with texture maps and surface attributes.

Maxon bills BodyPaint as a stand-alone application, but it's more accurately described as a giant plug-in for your favorite 3D application. It doesn't have any facility for building the models on which it paints, although it can import most major formats—including DXF, Lightwave, 3D Studio's 3DS, Quickdraw 3D, Wavefront OBJ, and of course Maxon's own Cinema 4D format. Although BodyPaint can't edit or create 3D geometry, you don't have to leave the program to view mapped textures you've created.

BodyPaint is built around Cinema 4D's render engine, which allows you to set up lights and cameras around the model to see how it would appear under actual lighting conditions. As with other Maxon products, the render engine is multiprocessor enabled, cutting render time in half on dual-processor G4 Macs. In fact, you can install BodyPaint as an integrated part of Cinema, effectively creating one environment for modeling, texturing, and animating. This level of integration is unique among 3D applications.

BodyPaint has several major strengths. First, it lets you paint interactively on the model surface, which greatly facilitates texture-making. You can paint not only colors, but also other surface attributes: bump maps, specular highlights, transparency, diffusion maps. You can paint in either the 3D view windows, directly on the model surface, or in the 2D view window directly on the texture map. Either way, all view ports update as you paint, and BodyPaint fully renders any 3D view with lights, shadows, and antialiasing at the touch of a button.

Maxon didn't skimp on the painting tools, either. There are over a dozen brush-category presets—including Sponge, Airbrush, Pencils, Pens, Oils, Felt Markers, Crayons, Charcoals, Chalks, and Pastels. We painted on the model surface using a Wacom Intuos 9 by 12 tablet, which is almost a necessity. Although it's possible to paint using a mouse, a tablet is a far better input device for the purpose.

Another remarkable strength is BodyPaint's unlimited layering ability. Each material contains numerous surface properties, such as color, bump, transparency, diffusion, and specularity. Each of these surface properties can contain an unlimited number of layers, and you can composite each layer over other layers in a variety of blending modes: Difference, Darken, Lighten, Multiply, Screen, Add, and so on. Only the amount of installed RAM limits this flexibility, which offers boundless potential for creating surface textures.

BodyPaint takes away much of the pain associated with texture creation, and its speed and flexibility encourage experimentation. Although it's a RAM—and processor—hungry application (we used it on a 450MHz dual G4 with 640MB of RAM), it performs beautifully, is rock stable, and integrates perfectly in a production environment.—*Mike Caputo*

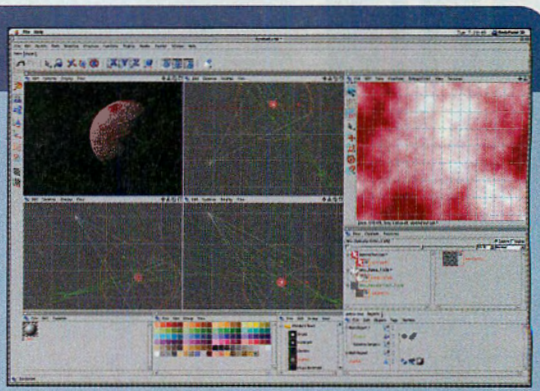
good news: Fast. Integrates perfectly with Cinema 4D. Excellent preview. Supports most 3D applications. **bad news:** Non-Mac interface. Expensive. Wobbly as stand-alone app.

Best of Both Worlds

BodyPaint supports layered Photoshop files, a feature that offers tremendous potential for the texture artist trying to create a specific look, mood, or surface. BodyPaint can import a native Photoshop file with layers and can use each layer as a surface map—making changes to it either back in Photoshop or within BodyPaint itself.

This functionality offers three major advantages: One, any adept Photoshop artist can now create surface textures. Two, Photoshop offers gazillions of plug-ins for creating distinct looks, colors, and patterns. Three, although BodyPaint has excellent painting tools, Photoshop has more of them, and more artists know how to use them.

BodyPaint leaves the door open for dedicated 2D artists to produce their best creations while working in a 3D world.



In a single Photoshop file, we created three surface textures for color, bump, and specularity as three separate layers. We then assigned the file to a surface in BodyPaint.

The Digital Universe

fun & games

Company: Syzygy
Contact: 780-961-2213, www.syz.com
Price: $99.99 (SRP)
Requirements: 68030 or faster (90MHz PowerPC or faster recommended), System 7.5 or later, 16MB of RAM, 5MB of free hard disk space (20MB recommended), 2X CD-ROM

The Digital Universe's main screen shows a realistic view of deep space, with prominent stars labeled.

Syzygy's The Digital Universe astronomy program offers accurate information on almost every sky object imaginable, effectively creating your own private planetarium. It is, however, designed with more of a scientific than a consumer market in mind. If you just want to know what star you're looking at or what Jupiter's moon Ganymede looks like, The Digital Universe is probably overkill.

You need only point and click to bring up an extensive list of information about any object in the sky, including planets, moons, stars, and galaxies. Have you ever wanted to find out the surface temperature of the Fum al Samakah star? Just click the star onscreen to bring up an information window, showing a surface temperature of 14,317 degrees Kelvin (25,311 degrees Fahrenheit), in addition to data on absolute velocity, spectral data, and seemingly everything else you'd want to know about the star.

It seems like Syzygy concentrated on cramming as much information as possible into The Digital Universe, neglecting ease of use. There are no scroll bars, so the only way to change your view is by clicking directional arrows on a palette. This lets you jump from one view to another, but it doesn't allow minor adjustments and makes navigating the program difficult.

Updating The Digital Universe to a new version or incorporating new astronomical data could be simpler. Rather than just downloading an update from Syzygy's Web site, you have to generate a revision file from within the program via the Update The Digital Universe menu item, send the file to Syzygy via its Web site, download an update, then merge that update into the program. (This also wipes out your preferences, forcing you to reenter them.)

The Digital Universe comes with a separate program called 3DStars, which simulates flying through space at up to thousands of light-years per second and creates a 3D illusion with the included pair of glasses. While 3DStars looks really cool, it does nothing else but simulate flying through space. The feature doesn't offer any star or object labels, so you can't tell where you're going or when you've arrived anywhere. (They never had this problem on *Star Trek*.)

Syzygy's The Digital Universe is filled with facts and scientific data, and it offers a wealth of knowledge about all items astronomical. It's designed for a scientific rather than a consumer market, however. For astronomers and semiprofessional stargazers, The Digital Universe is a good program (if difficult to control because of its lack of scroll bars and minor adjustments), but it's not really for people who just want to teach their kids about astronomy.—*Mark Shuchat-Marx*

good news: Lots of information. Very scientific. Great astronomical accuracy.
bad news: No scrolling. Difficult controls. Complex.

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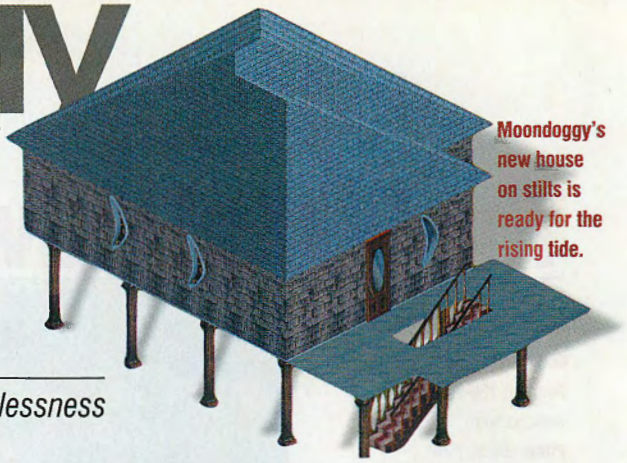


Moondoggy's new house on stilts is ready for the rising tide.

Movin' On Up

The Sims Expansion Pack Offers New Possibilities for Tastelessness

Find Evolutionary War and a demo of Rune on The Disc.

When you first start playing around with the Sims Livin' Large Expansion Pack ($29.95 SRP, www.aspyr.com), you might think you've been transported to a Las Vegas hotel room, or worse yet, Hugh Hefner's house, what with the leopard-print walls, vibrating beds, crystal balls, and red, red, *red* carpets. Besides the host of new decorative touches the expansion pack offers, it also has five new career tracks—slacker, paranormal, hacker, musician, and journalist (with a starting salary of $120 a day—yeah, right). Here's a peek a what you can do when your Sims start livin' large.—*CL*

Wallpaper. Animal prints on the walls (actually, dead animals in general) are very popular with the Sims.

New Furniture. Elephant tables, tacky *Playboy*-style couches, and bamboo bars à la *Survivor* are just some of the new items you can pick up in Livin' Large.

Bearskin Rug. A house never really feels like home without a nice, cozy bearskin rug (also available in tiger).

Christmas Tree. This Charlie Brown–esque Christmas tree once was, well, green.

Bathroom Accoutrements. New types of bathtubs and toilets—including this old-fashioned outhouse-style toilet that actually decreases your hygiene level—are now available.

Funky Lamps. As Greg Brady would say, "Groovy!"

Windows. Stained glass is an option for that old English church look.

Crazy Carpeting. Reds, purples, and greens—pretty much any color you wouldn't consider using to decorate your house—are available to adorn your floors.

Filthy Dishes and Buzzing Flies. Some things just never change. Add in a roach problem and this starts to feel like real life.

Vibrating Bed. If you're into this sort of thing (as we are, obviously), then you'll dig the heart-shaped vibrating bed, which doubles as a group activity.

Chemistry Set. Your Sims can make potions and earn logic points by buying this chemistry set, but watch out—they may turn into monsters for a night and wreak mass destruction on your house.

Foliage. Livin' Large provides new green-thumb offerings for your Sims—including a sculpted dolphin bush for all of you Flipper fans.

New Skins. We always wear our best teddy and beaded cap when we call on our neighbors. Other new skins are just as, uh, interesting.

Workbench. To earn mechanical points, get a workbench and make wooden gnomes. Lots of them.

Ragnar Smash!

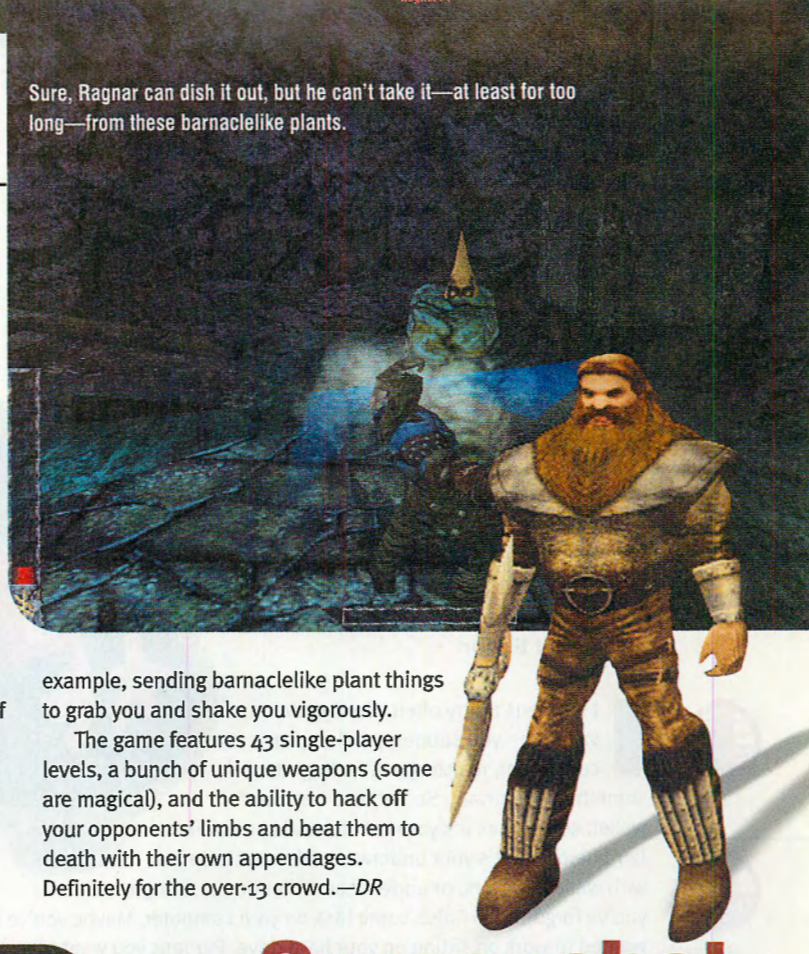
Rune Appeals to the Viking in Us All

Anyone who truly enjoyed reading *Thor* comic books back in the day, but wished the stories were a little darker (stupid comics code), will be delighted to discover Rune, the latest from Human Head and Gathering of Developers.

In Rune, you play a young Viking named Ragnar—doesn't that name rock?—charged with guarding a sacred rune stone in your village. That rune stone is all that stands between you and Ragnarok—the battle at the end of the world. It's a third-person combat game in the vein of Tomb Raider (only without guns and hot pants), in which you run around and chop, hack, or bash things with your axe, sword, or mace.

It's the little things in Rune that make the game so darned interesting. Here's a sampling of the attention to detail—often grisly—that gives the game a character all its own.

- You gain health by biting off the heads of lizards or drinking flagons of grog, chucking the debris over your shoulder when you're done.
- As you fight, your sword gets bloodier to reflect the damage you've done.
- If you get into a long melee, you can work your way into a berzerker rage, which does some *real* damage.
- Your enemies can attack in surprising and delightful ways—for example, sending barnaclelike plant things to grab you and shake you vigorously.



Sure, Ragnar can dish it out, but he can't take it—at least for too long—from these barnaclelike plants.

The game features 43 single-player levels, a bunch of unique weapons (some are magical), and the ability to hack off your opponents' limbs and beat them to death with their own appendages. Definitely for the over-13 crowd.—*DR*

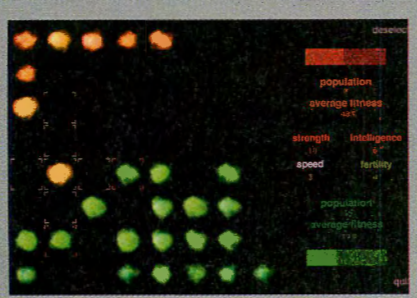
Evolutionary Wars

Battling Blobs Will Pull You In

Evolutionary Wars combines a pseudo-Darwinian philosophy with a checkers-style playing field, in which you wage war using organisms on a playing board. You have your choice of three basic moves when you encounter an organism: move, attack, or reproduce. Moving and attacking are self explanatory: Each choice either moves the selected piece to a new location or attacks an enemy organism. It's the reproduction aspect of the game that gets really interesting.

Each organism has four characteristics—strength, intelligence, speed, and fertility—and by breeding your organisms, you can improve the attributes of the offspring (of which there are one, two, or three). You can also clone your organisms—this may make copies of them, but it may also produce worthless stones (cloning *is* an imperfect science, after all). By building a strategy combining movement, reproduction, and attacks, you can outfight your opponent and win the game—or you can make things go horribly wrong. Although gameplay is simple, it's also surprisingly addictive.

The best-thinking person's game to come out in a while, it's also the cheapest shareware bargain around—only $1. That's right, just a buck will forever rid you of the guilt you might otherwise face. For more information about Evolutionary Wars, visit http://phlosoft.8m.com/evwar.html.—*DR*



They may *look* like little blobs of gas to you and me, but they're actually living beings that can reproduce and evolve over time.

Screenshot of the Month

A blast from the past this month—literally. If you'd like your moment of glory immortalized for all time, send it to letters@macaddict.com with some commentary on what makes it a thing of beauty.

Artist's Statement

Here's an incredible screenshot I snapped as I delivered a deathblow and won a level on Carmageddon 2. I didn't realize until later that I actually crashed my opponent into a speeding freight train! Whoa—now, doesn't Max think that's rather spiffy?—*Jeff Robinson*

how to

Let's all just kiss that "unhackable" thing good-bye!

TOUGH

Make an Email Remote Control

by Ian Sammis

ILLUSTRATION BY NATHAN JUREVICIUS

It's like being here and there at the same time.

WHAT YOU'LL NEED

- **Microsoft Outlook Express or Microsoft Entourage (www.microsoft.com/mac)**
- **Script Editor**

TOUGH
This stuff's for the pros.

TRICKY
It'll take some effort, but you can do it.

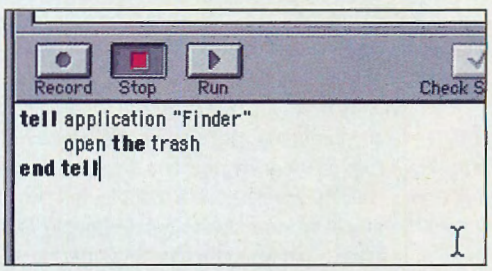
EASY
The fundamentals, if you will.

It happens pretty often when you're on vacation—you suddenly wake up in a cold sweat, realizing you've forgotten something important. Sometimes it's your wallet, sometimes it's your tickets, and sometimes (lord help you) it's your underwear. We can't help you with wallets, tickets, or underwear. Other times, though, you've forgotten to finish some task on your computer. Maybe you've left a document you wanted to work on sitting on your hard drive. Perhaps you wanted to run a Photoshop filter in your absence, knowing it would take a few hours to finish. Or maybe you simply forgot to shut down your Mac.

If you're willing to put in a bit of work ahead of time, have a continuous connection via a DSL line or cable modem, and open a fair-size security hole on your machine, you can run your machine remotely by email using Entourage or Outlook Express. You'll need to leave your email client running so it can check your email on a schedule while you're gone. Unfortunately, this trick won't work with Eudora—it depends upon the ability of mail filters to execute AppleScripts, an option that's not currently available in Eudora. Here's how it works.

1 Create an AppleScript Placeholder

Using the Script Editor, create a simple AppleScript like this one. Save the AppleScript as a compiled script with the name "Do It." Don't worry too much about the actual contents of the script—you'll just be using it as a placeholder.



Since this script is just a placeholder, it doesn't really matter what you make it do (although you probably should avoid assigning it a function that moves every item in the System Folder to the Trash).

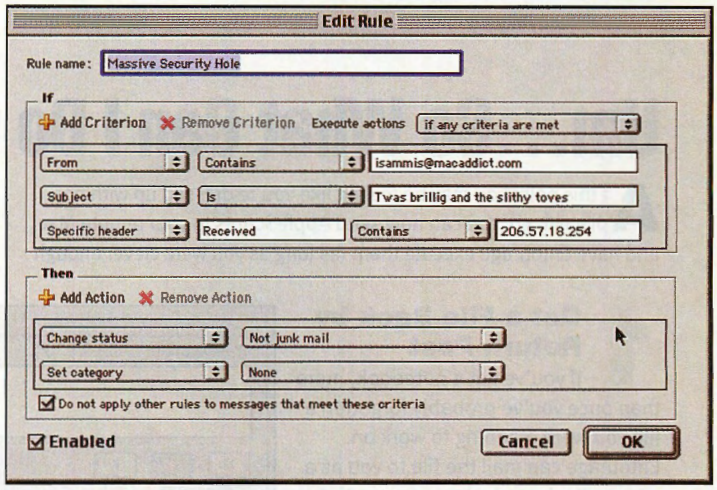
How the Remote Control Works

Microsoft—never a company to miss adding another bell or whistle to a product—went overboard in implementing its version of mail filters (rules, in Microsoft parlance). Along with the actions included in almost every email client's version of filters (moving messages from folder to folder, deleting messages, changing priorities, and so on), Microsoft threw in an amazingly powerful action that lets a mail filter run an AppleScript. Since most major application vendors have learned to love OSA—Open Scripting Architecture, the low-level basis for AppleScript—and made their apps scriptable, you can use Microsoft's rules to perform a huge number of different tasks.

All this sounds great, but since you have to select a preexisting AppleScript when you create a rule, it might seem like you're limited to running prerecorded actions. Not so! You can fool Entourage by quietly replacing the AppleScript you requested in the rule with another script by the same name placed in the same folder. If you use a Save Attachments action, you can send an AppleScript as an email attachment that executes when it arrives on the remote machine.

2 Create a New Rule and Set the Criteria

Fire up Entourage and choose Rules from the Tools menu. You'll be making a rule that will look for a specific subject line telling Entourage to execute an attached AppleScript. You really don't want anyone but yourself to control your machine remotely, so establish some strict criteria for the message that will trigger the rule. At a bare minimum, add criteria that look for the specific email address and subject line that should make the rule execute. Since an unwelcome guest could fake both of these, you should also test for a static IP number if you'll have one available on your vacation (granted, that's not too likely, but it's possible if you're visiting relatives).

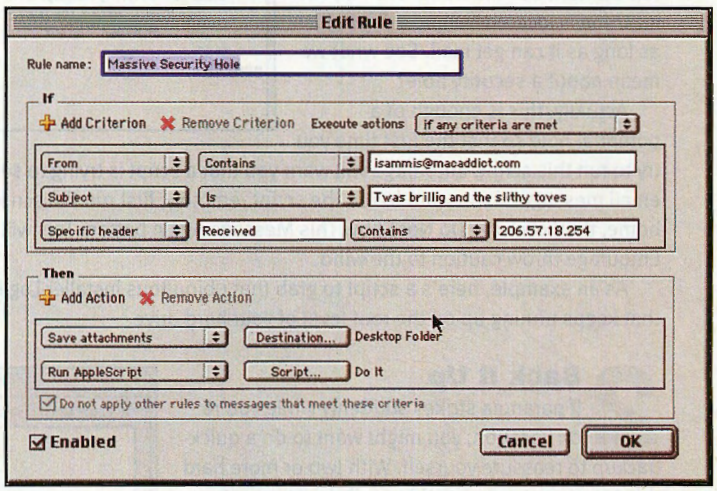


We went all the way on this one—our rule won't pay attention to anything but messages from a single, specific IP address.

3 Set It Up

Now you come to the heart of the rule—the two actions it executes. Set the first action to Save Attachments. Click the Destination button, and set the destination to the folder where you saved the Do It script in the first step. Set the second action to Run AppleScript. Click the Script button, and choose Do It.

Since that completes the rule, click OK to save.

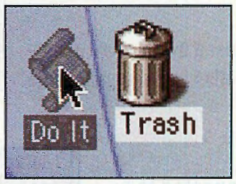


There you have it—one action to save the incoming AppleScript, and a second to run it.

4 Delete Do It

Drag Do It to the Trash, and choose Empty Trash.

That's it! Now all you have to do is send yourself a message that meets all the criteria you've created, and attach an AppleScript named Do It. When the rule executes, it will save the script in the location you specified. Since Entourage is just looking for an AppleScript called Do It at a fixed location, the rule will then proceed to run the attached AppleScript. Now you can control your Mac remotely! Unfortunately, so far you can only send one command.

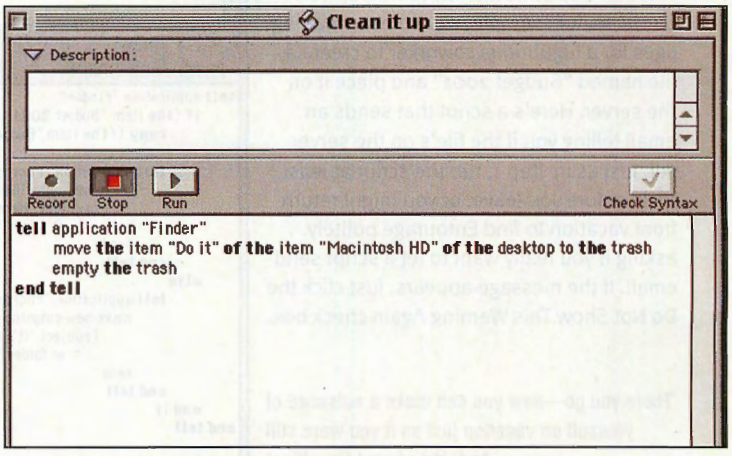


Now that you've made the rule, you can safely trash the placeholder.

5 Clean Up After Yourself

As set up, this script only lets you issue a single command to your Mac. The problem is that once you've issued your first command, the script Do It continues to sit where the Save Attachment action saved it, and so gets in the way of the script's running again. Entourage will politely avoid deleting Do It by saving any other scripts you send as Do It 1, Do It 2, and so on—but that prevents the script from activating them.

The solution here is to create a second rule very similar to the last one. Use different subject criteria ("Delete It" instead of whatever you used before, for example), so Entourage can differentiate between the two rules. This time, you'll run an AppleScript you'll leave on your home machine, instead of one you'll email to yourself. The AppleScript you need will delete the Do It script, resetting the machine to receive another command. Now you can issue one command after another, as long as you remember to issue your cleanup command.



To execute more than a single command, you'll need to set up a rule to run an AppleScript like this one.

Um...So What Can I Do with This Thing?

At this point you may be feeling like you're dressed up with no place to go. You can now send AppleScripts to your remote Mac and have Entourage execute them (as long as you were clever enough to leave Entourage or Outlook Express running), but how do you make this whole Goldbergesque monstrosity do some real work?

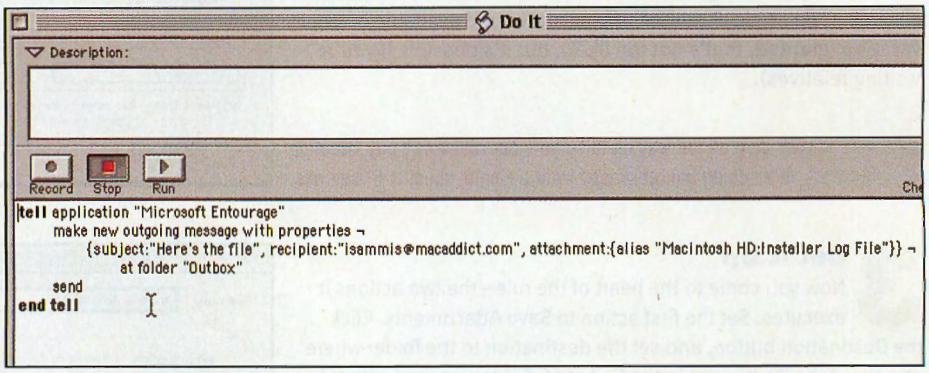
Here are three useful scripts you can send.

1 Get a File Back by Return Post

If you've got a notebook, more than once you've probably forgotten a file you were planning to work on. Entourage can mail the file to you as a return attachment when you use the remote control. This works even if your machine is located behind a firewall, as long as it can get mail. See what we mean about a security hole?

Actually, this is enough of a potential hole so that the first time you try to run this script, Entourage will warn you that a script is trying to send an email message. If you want to run the script remotely, first run the script from home, then click the Do Not Show This Message Again button. This will make Entourage throw caution to the wind.

As an example, here's a script to grab that ubiquitous Installer Log File that keeps turning up on the root level of your hard drive

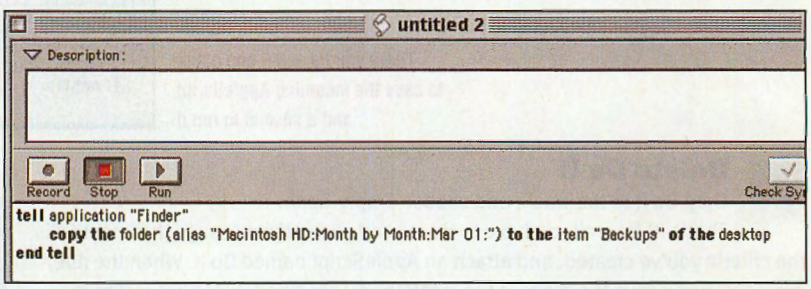


If you've never done it before, here's how to create and send an email message from an AppleScript.

2 Back It Up

If paranoia strikes suddenly while you're on vacation, you might want to do a quick backup to reassure yourself. With two or more hard drives, you can manage this easily by copying a folder from one drive to the other. Here's a little script that does just that.

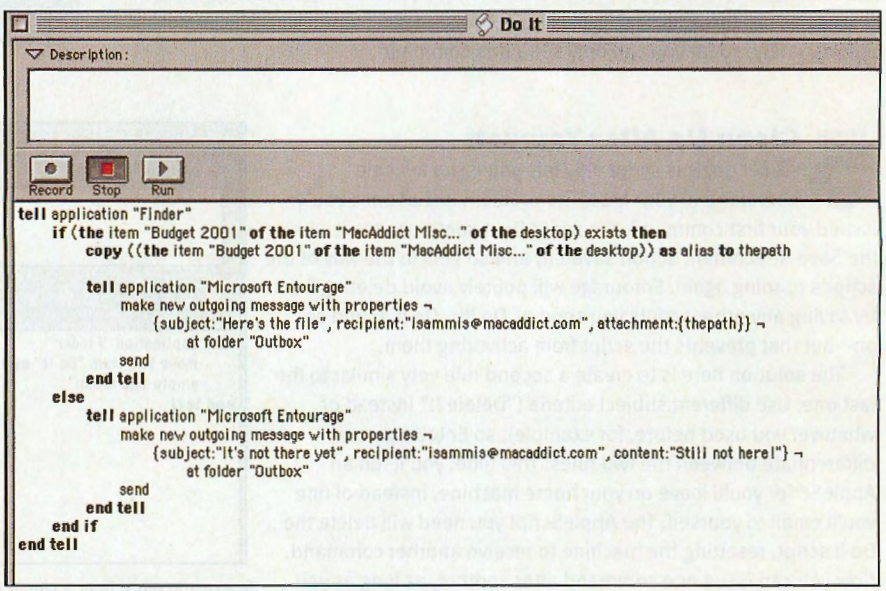
Don't get confused by the word *alias*—in AppleScript, an alias is just a path name.



3 Look Around

If your machine is connected to a file server, you might want to see whether a specific file has turned up yet. Suppose, for example, you've been waiting ages for a lugubrious coworker to create a file named "Budget 2001" and place it on the server. Here's a script that sends an email telling you if the file's on the server yet. Just as in step 1, run the script at least once before you leave, or you might return from vacation to find Entourage politely asking if you really want to let a script send email. If the message appears, just click the Do Not Show This Warning Again check box.

There you go—now you can make a nuisance of yourself on vacation just as if you were still hanging around the office!



Ian Sammis is ready for a good nap.

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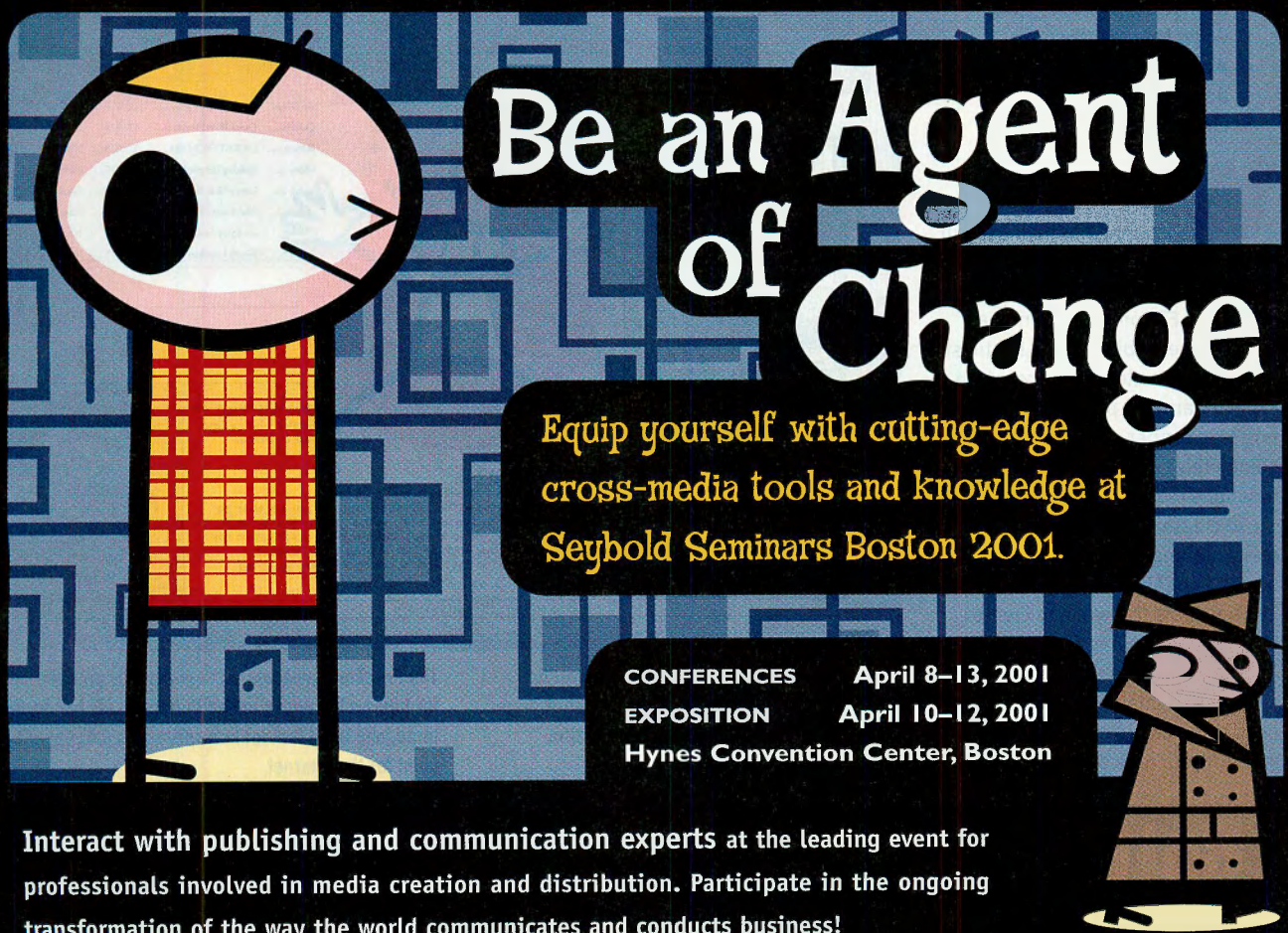

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EASY

Make Interarchy Interfaces

by David Reynolds

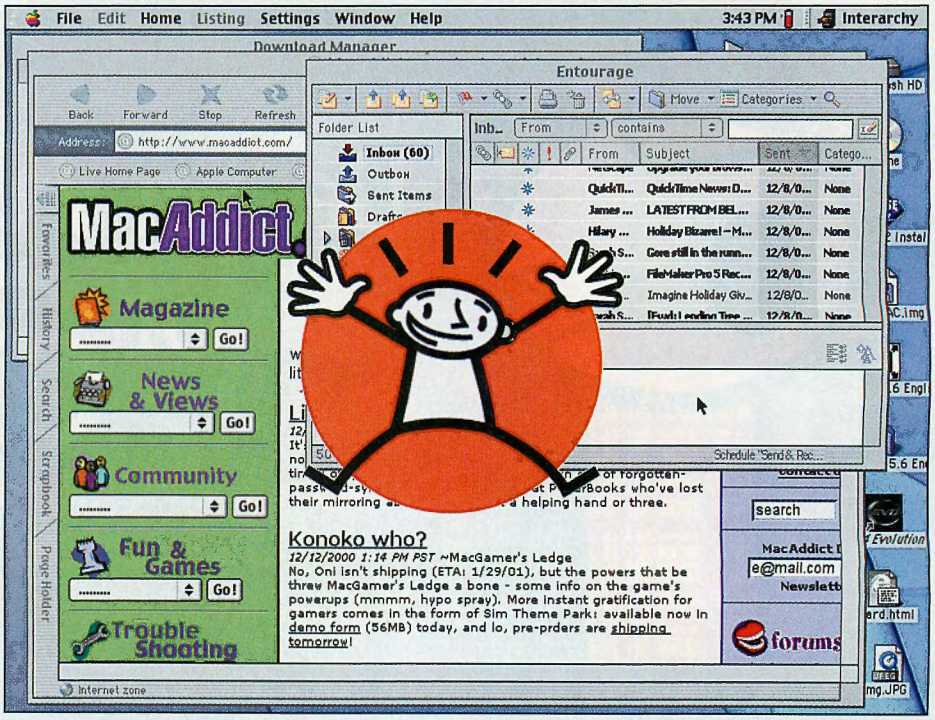
WHAT YOU'LL NEED

- **Interarchy, including Interface Builder ($35, www.interarchy.com)**
- **An image to use as the base of your interface**
- **Creativity**

Find Interarchy 4.0 and Max Wand tutorial files on The Disc.

When the shareware powerhouse Anarchie turned into Interarchy in August of 2000, the name wasn't the only thing that changed. The newly revamped FTP program gained a bunch of new abilities, the flashiest of which are called *interfaces*. Akin to skins for an MP3 player, interfaces go one step further—they let you completely customize button functions in an Interarchy interface.

To create an interface (which is really nothing more than five PICT files stacked on top of each other, with a few hot spots thrown in to create buttons), all you need is Interarchy Interface Builder and an image to use as the basis for your interface. Once you've created that interface, it can serve as the control panel for most of your Internet needs. You can use it to launch your email client, go to a Web page, ping a site, monitor your network traffic, or even do a DNS lookup. Sweet!



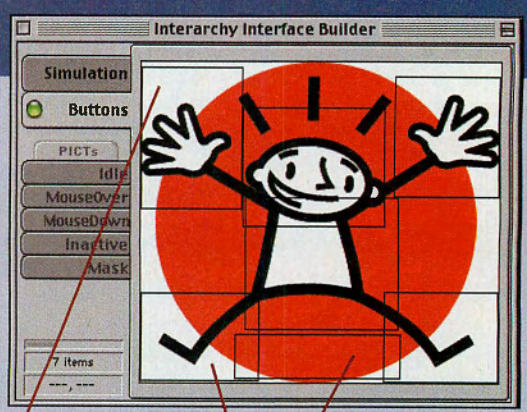
The *Freakin' Awesome!* Max is actually an interface for Interarchy. We've added buttons to his hands, feet, torso, and head that let him serve as a jumping-off point for the Internet.

Button Basics

Buttons trigger Interarchy functions—without them, the interfaces are nothing but fancy pictures. A button is a rectangle on the picture that either launches a URL when you click it or shows the name or URL of any button the user holds the mouse over. You set each button's behavior by making the appropriate choice in the Edit Data Fields window.

Interarchy understands three types of URLs:

- Generic URLs—These URLs are the usual variety you'd see in a Web browser or on a Web page, such as www.apple.com. Interarchy responds to generic URLs by passing them to another program, such as Microsoft Internet Explorer.
- Interarchy URLs—A URL entered in the form "interarchy::*command*" tells Interarchy to handle the URL that follows. It's usually a command that Interarchy can handle itself, such as an FTP download or a traceroute. The Interarchy Interface Builder appendix in the documentation has a complete list of Interarchy commands.
- Text URLs—Text URLs specify the font, size, and color of any labels you add to your interface. Their format looks like this: fontname:fontsize:fontcolor—the font color is expressed in the same RGB hex format used to specify colors in Web pages. So to have 11-point, green Palatino text in your Name field, you'd use palatino:11:006600. If you plan to pass your interface around, choose a generic font like Geneva.



Kind: Button
URL: http://www.apple.com
Name: Apple Computer
Comment: Jumps to Apple's Web page

Kind: Name
URL: (left blank)
Name: geneva:10:000000
Comment: Shows the name of any button the user holds the mouse over

Kind: Button
URL: interarchy::dns
Name: Who owns this URL?
Comment: Translates between machine names and IP numbers

Interarchy interfaces require five variations on your base image.

Idle | Inactive | MouseOver | MouseDown | Mask

1 Make the Images

The first step in creating your own interface is to find an image to provide a basis for your interface. It can be *any* PICT file—a photo, a drawing, or a piece of abstract art. It's helpful to choose one with some obvious focal points—that way, anyone else who uses your interface will know where to look for buttons.

Once you've selected your basic image, you'll need to make five versions of it: Idle, Inactive, MouseOver, MouseDown, and Mask. To create these images, take your original image and duplicate it four times in the Finder (choose Duplicate from the File menu or type Command-D after selecting the item). Rename your files so you know which ones are destined for the Idle, Inactive, MouseOver, MouseDown, and Mask images, and make sure you've saved them as PICTs—Photoshop or GraphicConverter should handle this for you.

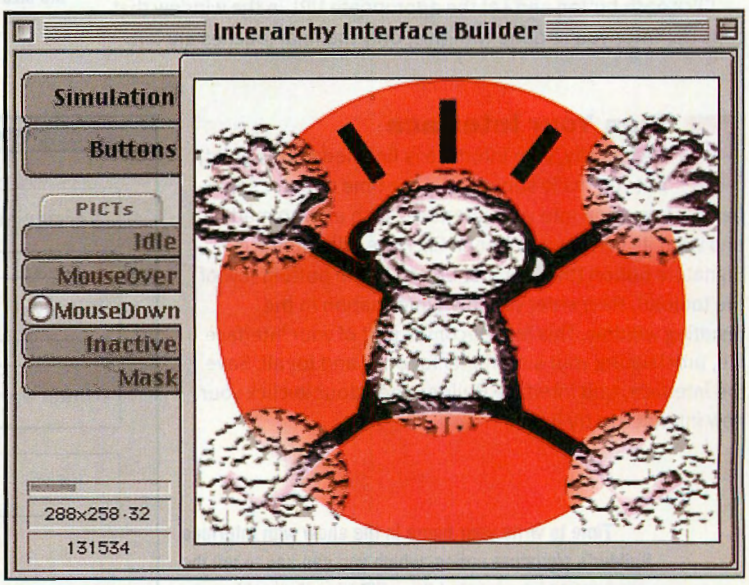
Here's a bit of information about each image variation:

- Idle—The Idle image is how the interface looks when it's active but the mouse isn't hovering over any of the buttons. Most of the time, this is the same as your basic image.
- Inactive—The Inactive image is how your interface looks when it's in the background. Typically, inactive items have most or all of the color drained from them, giving them a gray appearance. Edit your Inactive PICT so it is a muted version of the Idle image—you want it to slip into the background to signal inactivity.
- MouseOver—The MouseOver image includes all of the changes that occur when the mouse hovers over a button. These will eventually become buttons that change appearance—much like JavaScript rollover buttons on a Web page. All of these effects appear in a single file (the buttons you'll add later will take care of making effects show up at the right time). These effects must coincide with where you plan to put buttons, or they won't show up in the final interface. To create the MouseOver image, change every area of the image that will "light up" when the mouse hovers over it to indicate the presence of a button. In the final interface, only one button at a time will light up.
- MouseDown—The MouseDown image is like the MouseOver image in that it shows all of the areas that change when you click a button with the mouse. To create the MouseDown variation, edit the lit-up areas of the MouseOver image for a more pronounced effect—that way, the interface's users know when they've clicked a button. Embossing, adding color, or darkening the area are all good techniques to use in MouseDown images.
- Mask—Finally, the Mask image determines the shape of the window. Although all interfaces are technically square, only the area of the interface covered by black pixels in the mask is visible—the rest is transparent and unclickable. Masks are the secret behind the oddly shaped windows typical of interfaces.

2 Import the Images

Now that you have your interface images ready to go, open Interarchy Interface Builder (inside the Interarchy folder), and select New Interface from the File menu (Command-N). Notice the tabs under the PICTs section in the left portion of the window. You'll be importing your images into these areas to build the graphical portion of your interface. Interface Builder will take care of compressing the images into a single file that Interarchy can use.

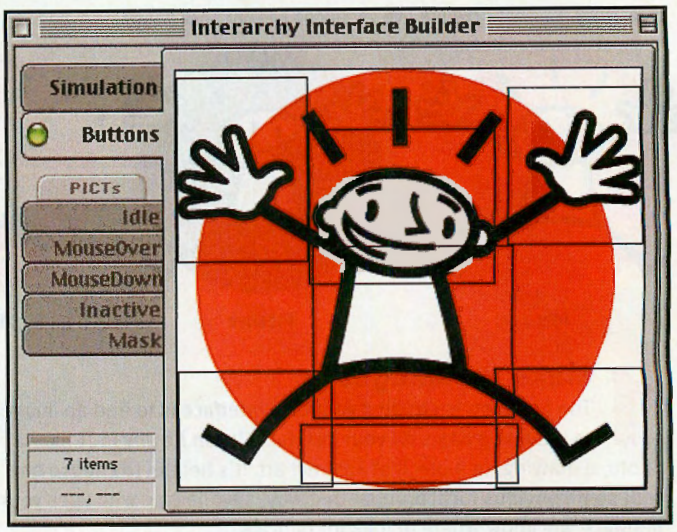
To start importing the images, click the Idle tab to the left, then choose Import Pict from the File menu (Command-I). If the tab looks grayed out, click it anyway—it should activate. Select the image you want in the dialog box that pops up, then click Open. Your Idle image now appears under the Idle tab. Repeat this process for the MouseOver, MouseDown, Inactive, and Mask tabs. Note that you can also copy and paste images from your graphics program.



Although Max looks all cracked up, the alterations that appear in the MouseDown tab of the Interface Builder window only shows up when you click a button in the final interface.

3 Draw Your Buttons

With the basic images in place, it's time to add some power to your interface—otherwise you may as well spend your time staring at a Photoshop window. That's where the Buttons panel comes in. Click the Buttons tab on the left, then click Add New Button in the toolbar—it's in the bottom row, second from the left. Draw a button rectangle around each area you want to use as a button in your final interface—these will be the same areas you altered in your MouseOver and MouseDown images. Make the boxes big enough to show the entire effect you intended.



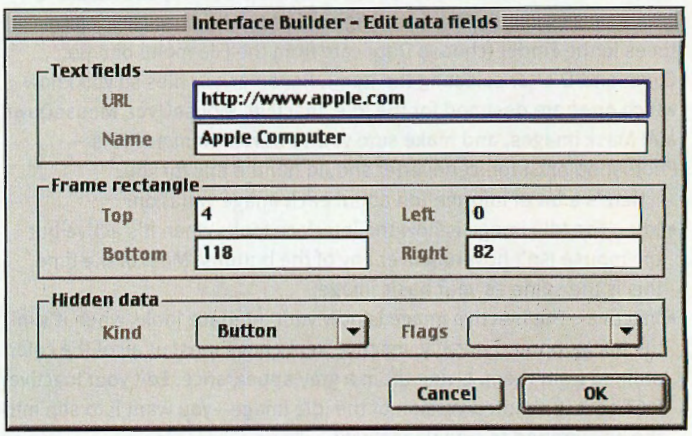
Rectangles indicate what parts of the interface will act as buttons and where the MouseOver and MouseDown images will show through.

4 Configure Your Buttons

At this point, you can check out how your interface will look by clicking the Simulation button. Your interface will show all of the button rollovers you set up in the last step. If you click one of the buttons, a portion of the MouseDown image will show through, and the Edit Data Fields window for that particular button will pop up. This is where you assign functions to buttons.

For buttons that launch URLs (whether generic or Interarchy), give the button whatever name you like, then enter the URL in the URL field. Make sure the Kind pop-up menu is set to Button and none of the flags are set—this ensures that Interarchy will hand off the URL to the settings in your Internet Config control panel. For data fields that act as Name or URL readouts (which you select from the Kind menu), leave the URL blank and enter the text formatting commands in the Name field (remember, these commands are in the following format—font:fontsize:fontcolor). The Flags pop-up menu lets you set whether Interarchy or a helper application handles URLs.

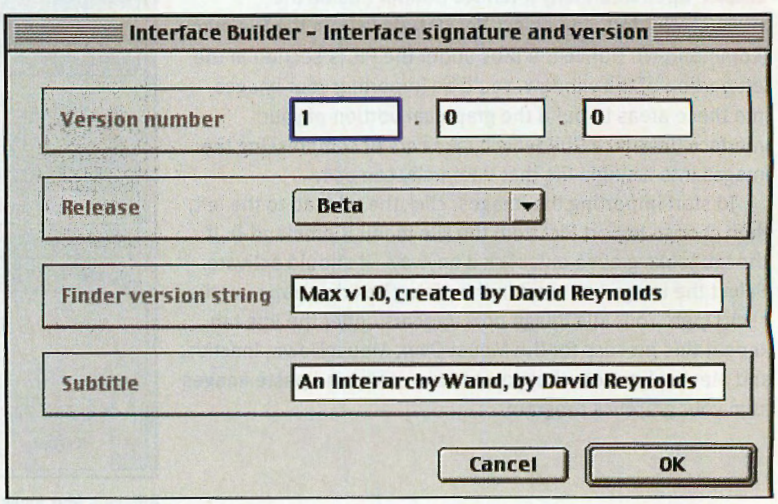
Click each button and set the appropriate URL in the window that pops up. Once you're done with this, only the final touches are left.



When you click a button in Simulation mode, the Edit Data Fields window pops up. In this window, you can name the button and attach a URL, and you can set the size and position of the rectangle.

5 Sign Your Interface

Technically, your interface is finished at this point, but you really should take the time to enter some basic information into your interface, such as who made it and what its version number is. Click the Edit Interface Signature button (the leftmost button in the bottom row of the toolbar), then enter your own information in the resulting window. This info becomes part of your interface file, proclaiming your superiority for once and for all. Save the interface, quit Interface Builder, then double-click your new interface to try it out.



Time to write your name in the snow with Interface Builder's signature option, which you can use to tell the world who created this utilitarian thing of beauty.

David Reynolds has found that a cornered platypus can inflict a nasty head wound if provoked.

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TRICKY

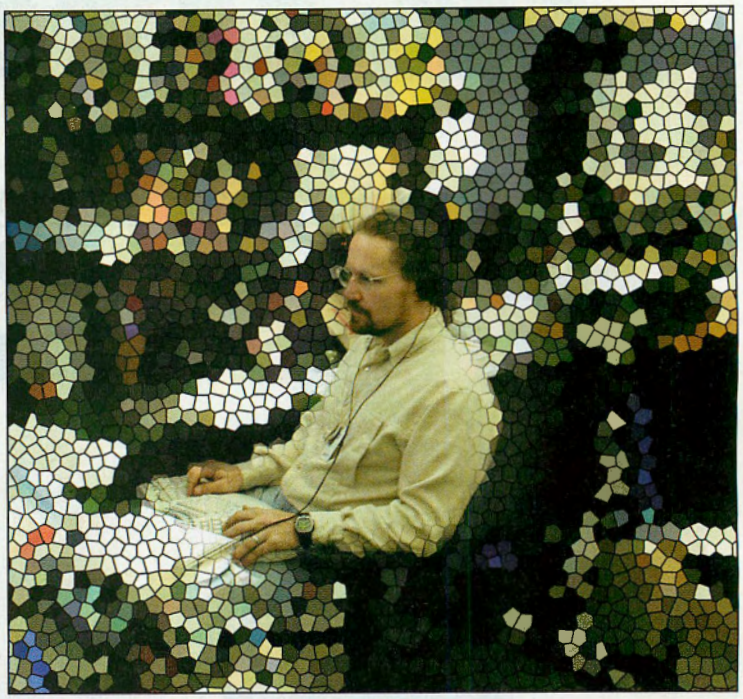
Make Layer Masks Do Your Bidding

by Ian Sammis

WHAT YOU'LL NEED

- **Adobe Photoshop 6.0—earlier versions will work too, with some allowance for interface changes ($609, www.adobe.com)**
- **Images to edit**
- **A graphics tablet (optional)**
- **Talent (very optional)**

We've said it before, but it bears repeating: The difference between an expert and a duffer isn't a fancy diploma or an aura of near-mystical power (although we'd quite like to have both). Instead, it's a mundane matter of knowing simple tricks that collectively allow the expert to finish the job while the duffer's still working on the first step. Working with Photoshop is just like any other skill—spend a few moments watching a Photoshop expert, and you'll witness a number of clever moves that might never have occurred to you. One of the richest sources of these tricks is Photoshop's layer mask feature. Layer masks let you combine layers with an incredible amount of control, producing effects that would be difficult or impossible to create otherwise. Two common effects you can create using layer masks are adding an image to a background and applying a filter selectively to portions of an image.



Layer masks let you pull off a lot of cool tricks, like this one.

What's a Layer Mask?

A layer mask indicates how much of a layer to show and how much to hide. White portions show the top layer, while black portions reveal the lower layer. Shades of gray indicate a mix of both layers.

Normally, when you create a new layer above an existing layer, Photoshop displays the entire top layer above the entire bottom layer. If you only want to display parts of a layer, you have two options: You can either cut out the portion you want to display, or you can use a layer mask.

A layer mask is a special grayscale image attached to a layer. The mask determines how the two layers blend—white pixels tell Photoshop to make the corresponding pixels in the top layer opaque, black pixels tell Photoshop to make the corresponding pixels transparent, and gray pixels tell Photoshop to blend the corresponding pixels in the top and lower layers. You can use layer masks to blend images smoothly with backgrounds, combine photographs taken under different lighting conditions, and gain precise control over the effects of a filter.

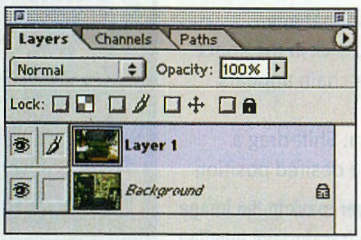
Unfortunately, manipulating layer masks requires a bit of skill. For a layer mask to work properly, you have to create a grayscale image that precisely reflects how much of each layer you want to reveal in the final image. If you're a decent natural-media artist, you might want to invest in a graphics tablet—even a cheap one such as Wacom's $100 Graphire (www.wacom.com) will make drawing layer masks much easier.

Blending In Additions

One of the more common uses of layer masks is adding a foreground image to a background one without creating obvious seams at the edges. Here's how the process works.

1 Add the Image

To get started, open the background image in Photoshop, then paste in the photo containing the image you want to add. When you paste in the new photo, you create a new layer in front of the background. You'll blend this layer into the background later.

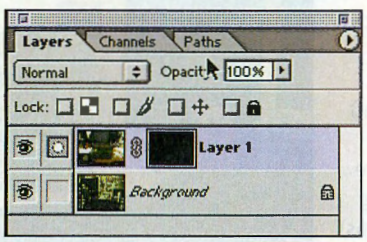


We decided to cheer up our art director's office by adding a fish tank. Here are the two layers—the office in the background, the fish tank in the foreground.

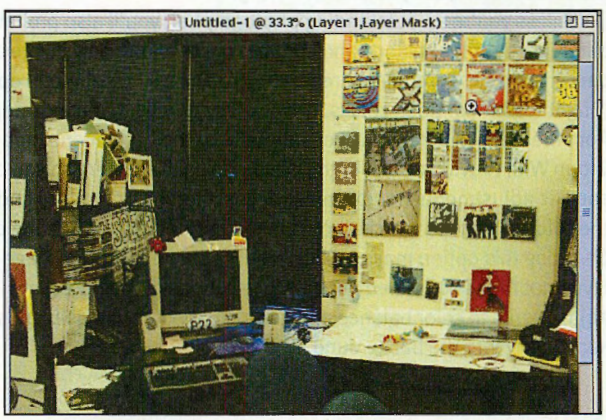
So far, only the top layer (the fish tank) is visible.

2 Create the Layer Mask

To blend the images, you need to create a layer mask. Since the image you want to add usually takes up only a small portion of the front layer, start by hiding that layer entirely. Choose Hide All from the Add Layer Mask submenu of the Layer menu to create a layer mask filled with black. This will make the front layer entirely transparent.



Because the layer mask in the fish tank layer is entirely black...



...all you can see is the office.

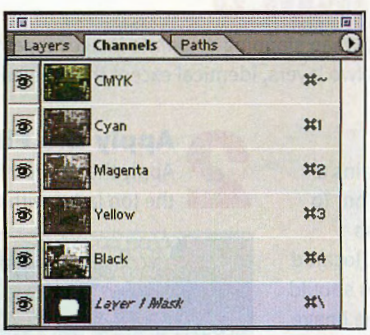
3 Mask the Image

Now you need to paint in the layer mask, filling in with white the image you want to add. If you click the layer mask's thumbnail in the Layers palette, any image editing you do (painting, applying filters, and so on) will affect the mask instead of the image.

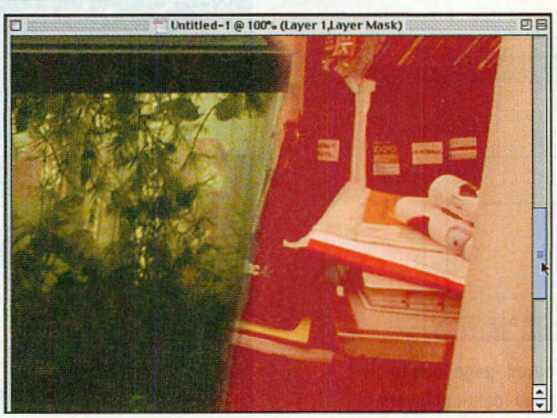
To make the mask more obvious, double-click its channel in the Channels palette. This lets you set a color and transparency to represent the mask, displaying it with an interesting effect called *rubylith*. (The name harks back to the days when transparent red plastic produced a similar effect in the creation of printing plates.)

Start with a large brush, and cover with white the portion of the mask containing the image you're adding. Using progressively smaller brushes, fine-tune the mask. If you want to create sharp linear edges (in our example, along the sides of the tank), select a region with the polygonal lasso tool and fill it with pure white or black. As soon as you have masked the image adequately, click the eye next to the mask in the Channels palette to turn off the rubylith effect.

If the edges on your mask look unnaturally sharp, select the thumbnail for the mask in the Layers palette, then apply the Blur filter to make the edges a bit fuzzier.



The layer mask appears in the Channels palette as a channel.



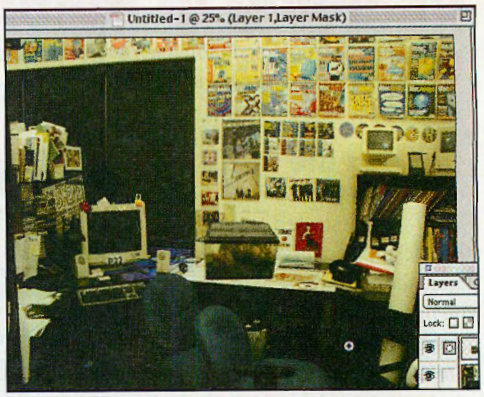
When you turn on the mask's channel alongside any other channel, the mask tints the image. Adobe calls this effect *rubylith*.

4 Get Into Position

Now that you've added the image, you've probably noticed that it doesn't fit the background very well. You might worry about moving it—what will that do to the mask?

Fortunately, Photoshop lets you link the layer mask to the layer itself, so that any transformations of the image are also applied to the mask. To link a mask, click in the space between the thumbnails of the mask and the layer in the Layers palette—a chain appears between the layer thumbnail and the mask thumbnail.

To move and resize the tank, choose Free Transform from the Edit menu. Shift-drag a corner of the image to reduce it to its final size, then move the image to the desired position by dragging it.



Because you've linked the layer mask to the image, both mask and layer are transformed together.

5 Finishing Touches

Now that you've placed the image, it's time to add some final touches. After moving the image you'll probably see some problems with your mask; in some places there may be a sharp contrast between the added image and the background. Clean up the edges of the mask now with the same techniques you used in step 3.

Unless you're an outstanding photographer, you'll also probably notice a difference in color balance and contrast between the new image and the background. To fix problem areas, choose one of the submenu options (Brightness & Contrast, Levels, or any other quality that needs adjustment) from the New Adjustment Layer submenu of the Layer menu, and check Group With Previous Layer in the dialog box that appears so you can make specific adjustments (for example, decreasing the brightness and shifting the color balance to match photos taken under different lighting conditions). Checking this option makes adjustments apply only to the image in the front layer, not to the combined image. Once you make the necessary adjustments to color balance and contrast, the new image blends almost seamlessly into the background.

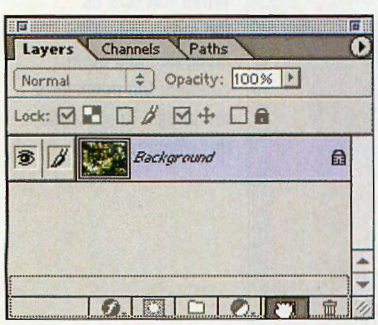
We reduced the contrast on the fish tank, brightened it, and blurred it slightly to match the background image.

Painting with Filters

There are more subtle uses for layer masks than slapping disparate images together. One of the coolest (and potentially most useful) effects you can create with layer masks involves two layers, identical except that one has a filter applied. Here's how to paint on a filter.

1 Duplicate the Layer

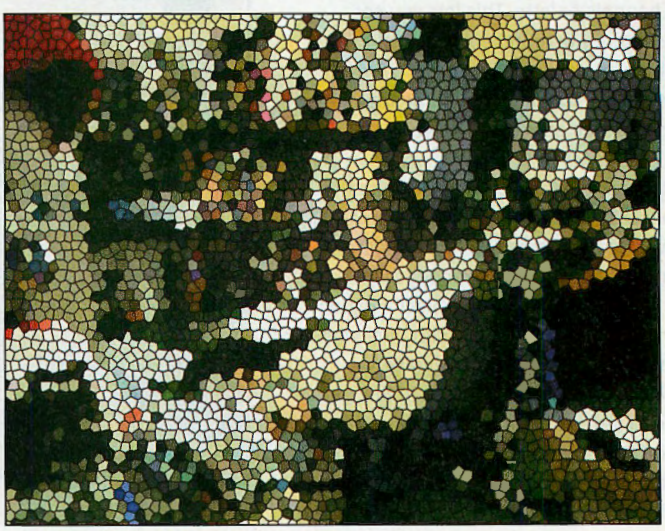
Start by creating a new layer that contains a duplicate of the image you're working on. To do this, drag the image thumbnail in the Layers palette to the icon showing a dog-eared page (located left of the Trash icon at the palette's base). You should now have two layers, each containing the same image.



Drag a thumbnail to the dog-eared-page icon to duplicate the image, creating two identical layers.

2 Apply the Filter

Apply the desired filter to the top layer. You now have the modified image in the top layer, with the unmodified version beneath it.



We chose the very obvious Stained Glass filter, but you could use a filter as subtle as Blur.

3 Create the Mask

Choose Hide All from the Add Layer Mask submenu of the Layers menu. The unfiltered image will reappear.

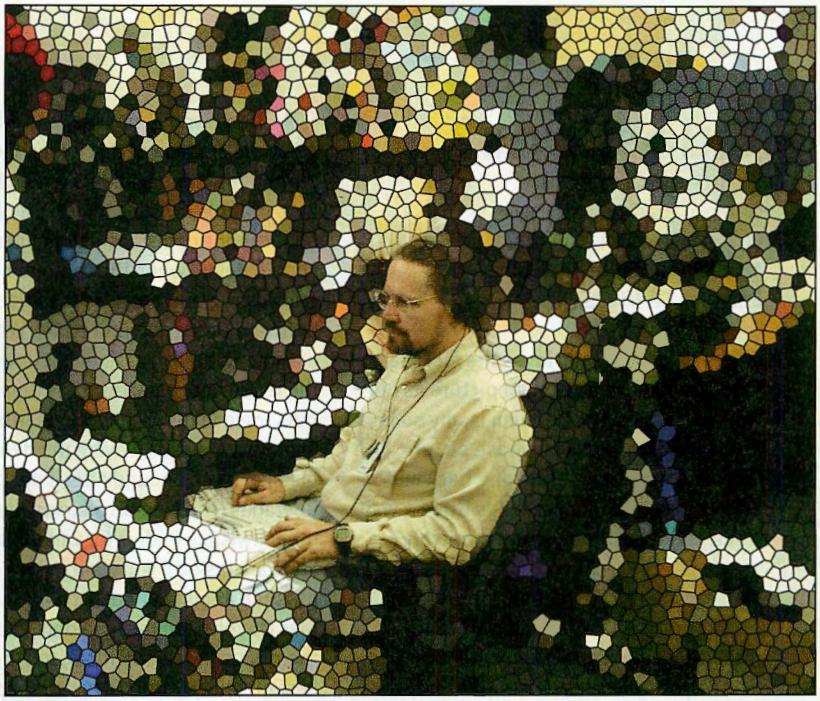
Once again, when we create a black layer mask, the top layer abruptly vanishes.

TIP: Tripods and Photos

If you've got a tripod, you can use successive photographs with different lighting conditions as your foreground and background layers. This works well if you want to use a flash for portions of an image (for example, the inside of a device or a person's face) without picking up the obnoxious hot points where reflective surfaces (eyes, metallic casings, and so on) shine the flash right back into the camera.

4 Paint On the Filter

Select a white or light gray foreground color, then click the mask thumbnail in the Layers palette to draw into it. Using the paintbrush, you can now paint the filtered layer onto the unfiltered one, in effect applying the filter with the paintbrush.



And there we are—the finished product.

Ian Sammis is a charter member of Artistic Incompetents Anonymous.

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ask us

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Questions?

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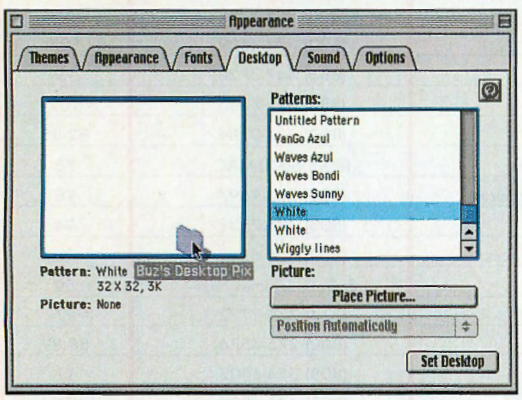
Find DeskPix 2.0.2, Moon Menu 1.5, Prestissimo 1.5, and TaskMenuBar 2.3 on The Disc.

Q My family really loves the fact that we can use a scanned picture as our desktop picture. The problem is, my sons are always fighting over whose picture appears. I am always changing back and forth between their pictures! Is there a way to select the desktop picture randomly?

A This is the perfect situation for a little trick Apple included in the Appearance control panel, where you choose your pictures. Just open the Appearance control panel, click the Desktop tab, then drag the folder that contains all of your pictures into the window on the left. After clicking the Set Desktop button, you will have a different picture every time you restart your computer. If you want even more choices for your computer's appearance, you should check out the free DeskPix utility from Searchware Solutions (www.swssoftware.com).



To cycle through desktop pictures randomly, just drag a folder full of pictures into the Appearance control panel.

Q I have noticed an interesting item on my hard drive—an invisible folder called Cleanup At Startup recently appeared. There is nothing in it, and it won't go away. Did I get a virus, and what should I do about it?

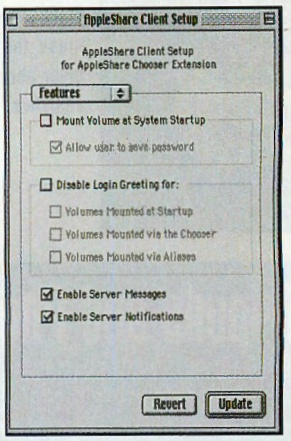
A Don't worry—no virus had a hand in the creation of this folder. Cleanup At Startup is a normal folder created by the Mac OS. This invisible folder is a place for applications or installers to put items they should delete when the computer restarts. A typical program that uses the folder is the Software Update control panel. When you ask it to update the system, it downloads the requested installers, runs them, then puts them in the Cleanup At Startup folder. That way, it avoids leaving the detritus of old installers lying around after it performs upgrades. The Mac OS also maintains a few other invisible folders for various system software tasks. If you want to look at your invisible items (but do just *look*—since the Mac OS relies on these folders, modifying them is usually a bad idea), try Apple's free ResEdit utility (http://developer.apple.com).

Q I am in charge of my school's computer lab and have a persistent problem. The computers are always asking to mount our file server at startup. I know what's going on: The students keep checking the Mount Volume At System Startup check box when logging in to our server. Trashing either the Appleshare Prep file from the Preferences folder or the aliases from the Servers folder easily fixes this. My question is, how can I prevent them from checking the box in the first place?

A We've run into this problem, too: You start up the computer, and you immediately get hit with a dialog box asking you to connect to a server. Of course, simply dismissing the dialog box allows the computer to boot up normally, but this poses a constant annoyance, however small.

You can approach the problem of keeping users from clicking Mount Volume At System Startup in two ways. The simpler option is user training; although we Mac users tend to assume Macs are simple enough so training isn't necessary, there are definite exceptions. Realistically, though, a few users will never be able to resist the Mount Volume button no matter how much time you spend training them.

This is where your second option comes in: Disable the box itself. To do this,



Stop this problem (all too familiar to any Mac administrator) once and for all.

you'll need a wonderful utility we've mentioned before (*Ask Us,* Jan/01, p88). The AppleShare Client Setup utility (www.apple.com/appleshareip) has an option that will disable Mount Volume At System Startup. Once you disable the check box, it appears but users can't select it. If you'd rather use a low-tech, brute-force solution, you could just lock the AppleShare Prep file in the Preferences folder (in pre–OS 9 systems) or replace the Servers folder with a file of any kind called Servers (under OS 9). Either method will keep the system from adding servers for connection at startup.

Q It seems to me the Mac's menu bar wastes a lot of real estate. Are there any utilities that expand the menu bar's uses?

A A lot of developers over the years have come up with uses for this extra space. Since the menu bar is always visible (no matter what application you're using), it's attractive real estate for storing utilities. A quick search at www.versiontracker.com comes up with many unique purposes for the menu bar, ranging from the utilitarian to the whimsical. On the serious side is TaskMenuBar ($15 shareware, http://pweb.netcom.com/~kawahara/taskmenubar.html), a handy utility that lets you switch apps, print or open files, and switch the default printer from the menu bar. On the weirder side of things, MoonMenu ($12 shareware, www.selznick.com) lets you check the current phase of the moon.

Q **My blue-and-white G3 is starting to show its age. The fancy new G4s are great, but I think my model still has some life left in it. I've upgraded the processor to a faster one, but what I would really like to do is replace my internal CD drive with a CD burner. Can I put a CD-RW drive in place of my CD?**

A Steve Jobs has admitted that Apple made a mistake in ignoring CD-RW. For now, though, adding an internal drive can get messy. None of the internal CD-RW drives currently available advertise Macintosh compatibility at all. Finding an internal CD-RW to go into your G3 may require some research and a little luck. You can find drives that will work just fine with your computer, but their availability is constantly changing.

Your best source of information about which drives work with your computer is a wonderful database created by Macintosh hardware guru Mike Breeden on his Accelerate Your Mac site (http://forums.xlr8yourmac.com/drivedb). This user-generated, searchable database provides firsthand accounts of which drives work and which ones don't. Read the entire review for any device you're considering, because many drives come with a hitch. One of the biggest problems is bootability—if you're planning to replace your built-in CD drive, make sure the replacement drive is bootable, or you'll be in big trouble if you need to boot from a CD to fix your Mac.

You should expect to pay $150 to $200 for an internal CD-RW drive. Since your G3 uses an IDE interface for the internal CD, swapping the drives should be relatively easy—just take out the CD drive and put the CD-RW in its place. If you decide to install an internal drive, you'll need to purchase CD-burning software separately. Adaptec's Toast Deluxe ($89, www.adaptec.com) is the Mac standard.

A final warning—unless you already own Toast, the extra cost will make adding an internal drive cost almost as much as getting an external drive. We'd generally recommend getting an external FireWire CD-RW drive if you have the choice; they're easier to install, more portable, and have far less potential for disaster. Choose a FireWire burner over a USB one—it'll perform much faster.

Buz Zoller is a technology support specialist for a school district in Texas.

Type 2 Errors

Q **Every time I try to open the Extensions Manager control panel, I get an "Error Type 2" message. What is this error and how do I fix it?**

A Error reporting has always been a huge exception to the Mac OS's much-vaunted ease of use. While Apple has made great strides in clarifying things with the last few system releases (System 7.5's appalling tendency to call every error "type 11" has died a merciful death), errors of types 1, 2, and 3 still occur with depressing regularity.

Fortunately, these types are pretty easy to troubleshoot and fix. All three errors refer to memory problems of one kind or another—the Mac OS's badly outdated routines for handling memory can cause many problems. Here's what to do when you run into these errors.

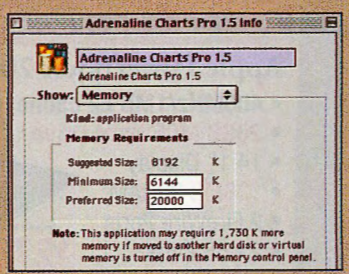
1 Restart

Often a buggy application corrupts memory by overwriting areas that belong to other apps or the system. If that happens, the obvious fix is to restart—since this clears the memory, the corruption problem usually vanishes.

If simple memory corruption's your problem, a simple restart should fix your Mac.

2 Increase Memory Allocation

If a restart fails to stop the error, you might have to change the memory allocation for the specific application that's crashing. Since the current Mac OS doesn't hand out memory to applications as they request it, the program's authors have to take their best guess ahead of time. If the programmers guess too low, their application can't function correctly in your system, and it may run out of memory and crash. Allocating more memory will fix this problem, and might alleviate a type 2 error.

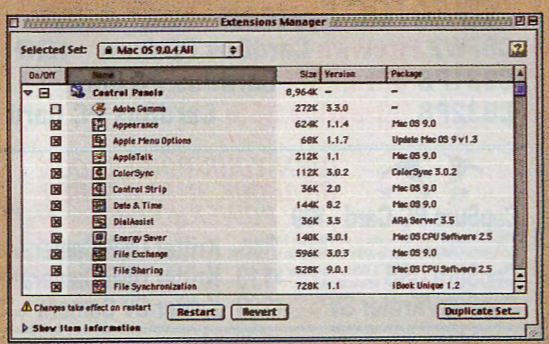


If your apps are crashing because they're running out of memory, you might try allocating a bit more.

To allocate more memory to a program, highlight the program's icon in the Finder and select Get Info from the File menu. In the Get Info window, choose Memory from the pop-up menu, then increase the allocation in the Preferred Memory box. You'll probably have to experiment with how much to increase this amount. We recommend starting with 1,000K, but you might have to add more.

3 Desperate Measures

If errors of type 1, 2, or 3 still occur after a reboot and after you've increased the problem app's memory partition, you're looking at an extension conflict, a corrupt preference file, or (worst of all) a corrupt application. Try holding down the space bar after a reboot to bring up the Extensions Manager before extensions have loaded, then turning off any third-party extensions.



If you suspect an extension conflict, try retreating to the extension set that came with your Mac and see if things improve.

If that fixes your problem, you'll have to go through a fairly involved process of elimination to figure out which extensions are causing the problem (Casady & Greene's $79.95 Conflict Catcher 8, www.casadyg.com, can automate the process to some extent). If turning off third-party extensions doesn't fix the problem, try trashing the preference file of the application that's crashing (for a copy-protected app, you may need the serial number to get it running again afterward). If all else fails, try reinstalling the application itself.

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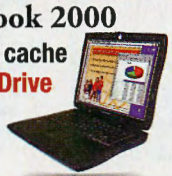

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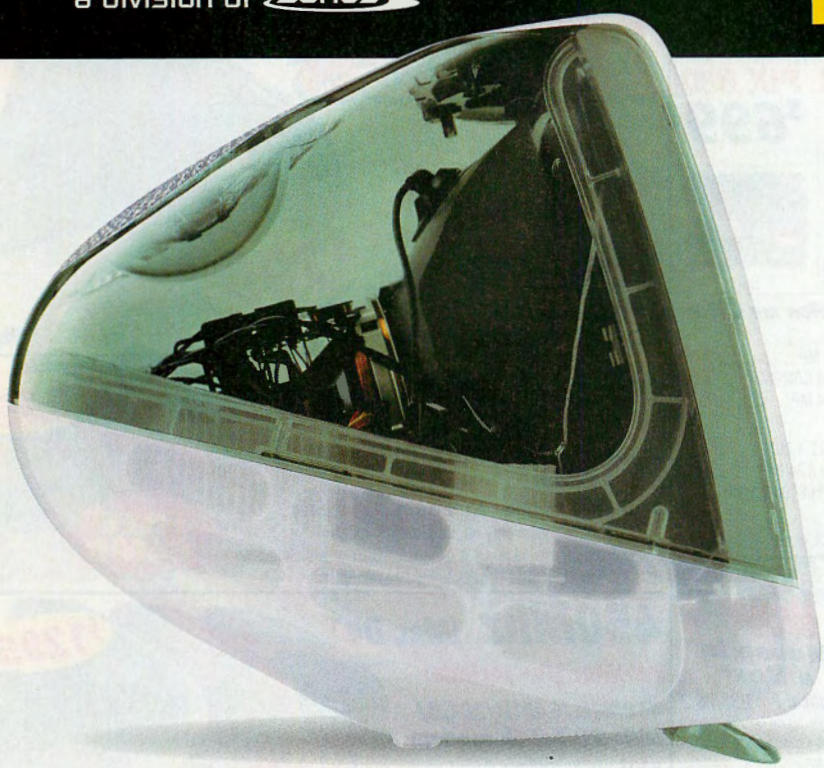

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Processor	350MHz	400MHz	450MHz	500MHz
Hard Drive	7GB	10GB	20GB	30GB
RAM	64MB	64MB	64MB	128MB
Optical Drive	CD	CD	DVD	DVD
FireWire	No	2 Ports	2 Ports	2 Ports
AirPort Ready	No	Yes	Yes	Yes
iMovie 2	No	Yes	Yes	Yes
	$794.98	$994.98	$1294.98	$1494.98
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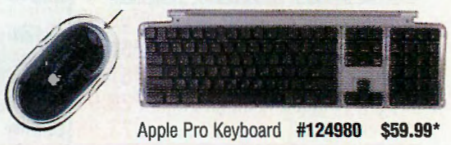

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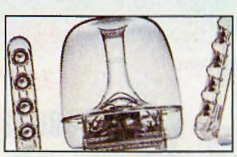

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RAM	64MB	64MB
Optical Drive	CD	DVD
FireWire/USB	1 Port ea.	1 Port ea.
AirPort Ready	Yes	Yes
Ethernet	10/100BT	10/100BT
Modem	56K	56K
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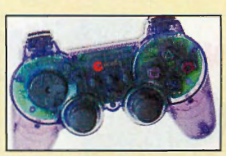

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RAM	64MB	64MB	128MB	256MB	256MB
Optical Drive	DVD	DVD	DVD	DVD	DVD-RAM
FireWire	2 Ports	2 Ports	2 Ports	2 Ports	2 Ports
Ethernet	10/100	Gigabit	Gigabit	Gigabit	Gigabit
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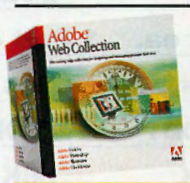

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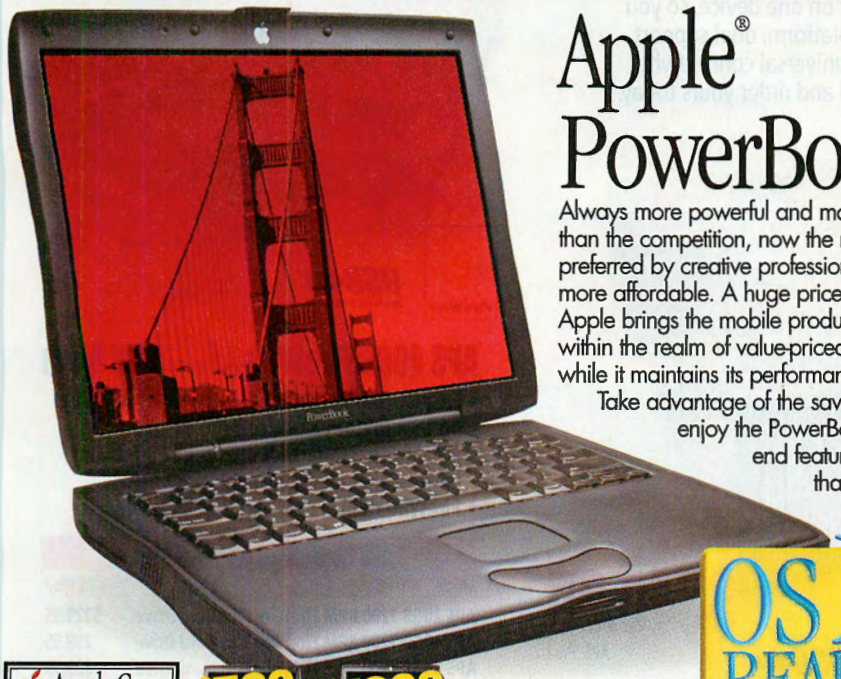

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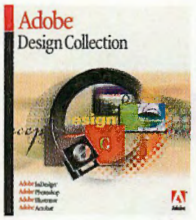

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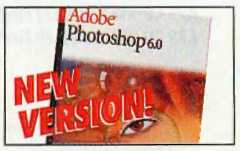

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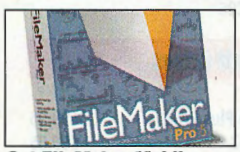

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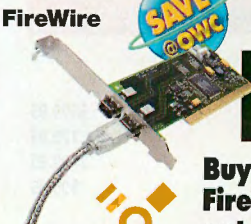

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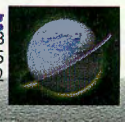

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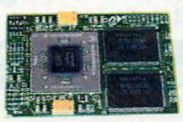

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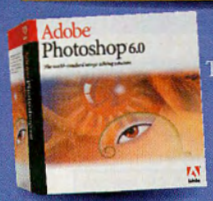

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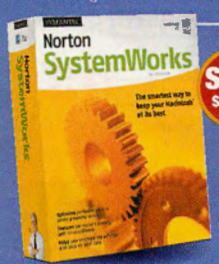

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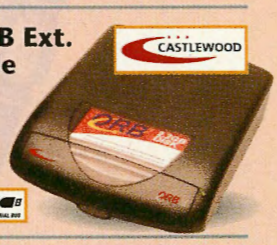

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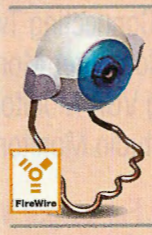

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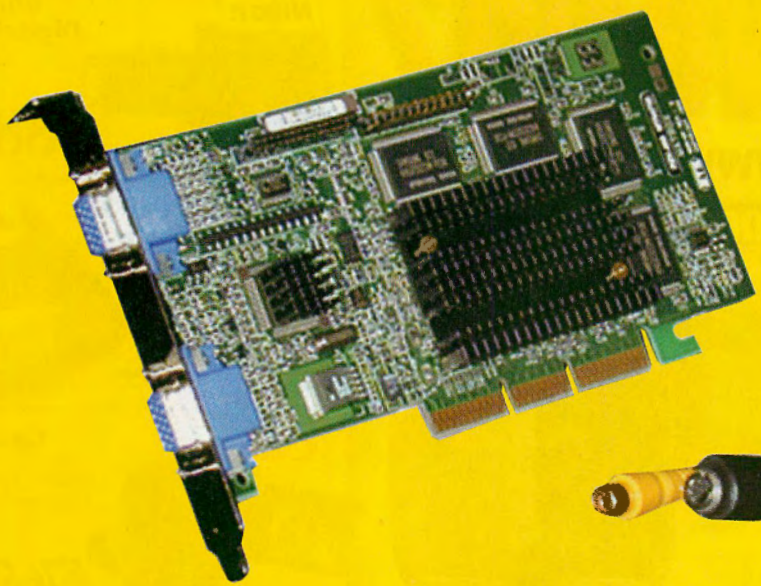

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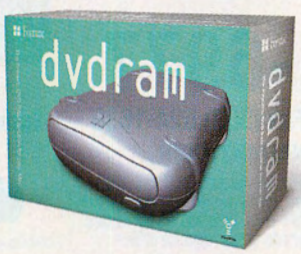

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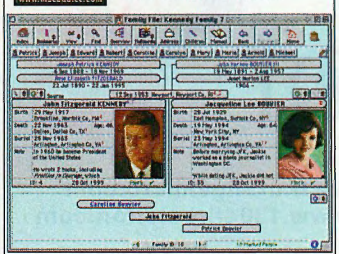

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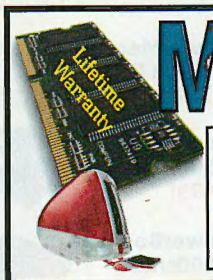

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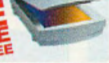

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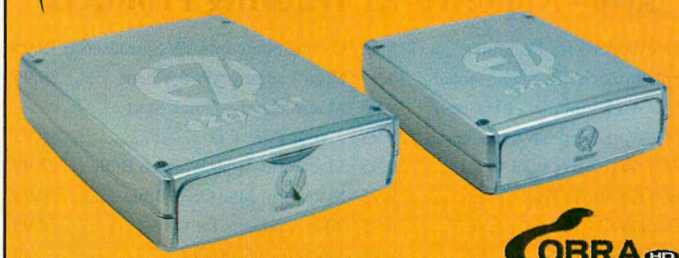

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More Microsoft Confessions

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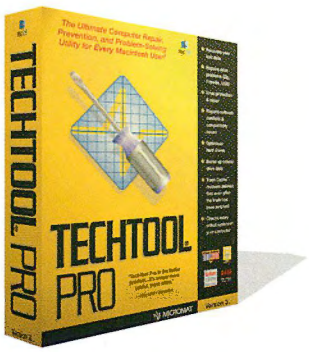

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